



Publications of the Week

Cell-Selective Proteomics Reveal Novel Effectors Secreted by an Obligate Intracellular Bacterial Pathogen

First Author: Allen Sanderlin | Senior Author: Rebecca Lamason *(pictured)*
Nature Communications | MIT



Pathogenic bacteria secrete protein effectors to hijack host machinery and remodel their infectious niche. *Rickettsia* spp. are obligate intracellular bacteria that can cause life-threatening disease. Researchers implemented bioorthogonal non-canonical amino acid tagging during *R. parkeri* infection to selectively label, isolate, and identify effectors delivered into the host cell. [Abstract](#) | [Press Release](#)

Donepezil Nanoemulsion Induces a Torpor-Like State with Reduced Toxicity in Nonhibernating *Xenopus laevis* Tadpoles

First Author: María Plaza Oliver | Senior Author: Donald Ingber *(pictured)*
ACS Nano | Wyss Institute for Biologically Engineering at Harvard University



Using a Bayesian network tool with transcriptomic data and chemical structure similarity assessments, researchers predicted that the Alzheimer's disease drug donepezil could be a promising candidate for a small molecule drug that might induce a torpor-like state. This was confirmed in a screening study with *Xenopus laevis* tadpoles, a nonhibernator whole animal model. [Abstract](#) | [Press Release](#)

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Awards

Whitehead Institute Member Mary Gehring Appointed as an Investigator of the Howard Hughes Medical Institute

Whitehead Institute



Whitehead Institute Member Dr. Mary Gehring *(pictured)* has been selected as an Investigator of the Howard Hughes Medical Institute (HHMI), one of just 26 scientists appointed in 2024. Considered one of the most prestigious positions in biomedical research, HHMI Investigators receive substantial direct support over a renewable seven-year term. [Read More](#)

Dr. Andrew Budson Receives Grant to Test Whether Neurofeedback Technique May Improve Memory in Patients with Early-Stage Alzheimer's Disease

Boston University



Dr. Andrew Budson *(pictured)*, Professor of Neurology and Associate Director of the Alzheimer's Disease Research Center at Chobanian & Avedisian School of Medicine, has been awarded a two-year, \$150,000 grant from the U.S. Israel Binational Science Foundation. This grant will support the project, "Improving subsequent memory in aging and Alzheimer's disease by theta oscillatory brain activity modulation." [Read More](#)

Simons Foundation Announces Thirteen Recipients of 2024 Independence Awards

Simons Foundation



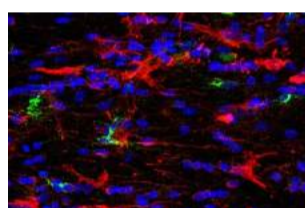
The Simons Foundation has announced the latest recipients of its prestigious Independence Awards. The thirteen talented early-career scientists will receive support as they transition from mentored training to independent research positions. Among this year's cohort is Dr. Chenjie Shen *(pictured)* from MIT for his project investigating the treatment of monogenic syndromes associated with autism. [Read More](#)

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Local News

Study Reveals Ways in Which 40Hz Sensory Stimulation May Preserve Brain's 'White Matter'

The Picower Institute



Early-stage trials in Alzheimer's disease patients and studies in mouse models of the disease have suggested positive impacts on pathology and symptoms from exposure to light and sound presented at the "gamma" band frequency of 40 Hz. A new study zeroes in on how 40Hz sensory stimulation helps to sustain an essential process in which the signal-sending branches of neurons are wrapped in a fatty insulation. [Read More](#)

Oxygen Produced in the Deep Sea Raises Questions about Extraterrestrial Life

The Brink



Over 12,000 feet below the surface of the sea, million-year-old rocks cover the seafloor. A new study has found that these rocks play host to numerous sea critters as they can produce oxygen on the sea floor. "This was really weird, because no one had ever seen it before," says Dr. Jeffrey Marlow *(pictured)*, a coauthor on the study, which was published in *Nature Geoscience*. [Read More](#)

Mpox Declared Public Health Emergency of International Concern. Now What?

Harvard Medical School



The World Health Organization declared the latest mpox outbreak in Africa a public health emergency of international concern. While the virus is not new, its behavior warrants vigilance and raises critical questions about infectivity, transmissibility, and preventive measures. To make sense of the latest developments, Harvard Medicine News spoke with Dr. Daniel Kuritzkes, a member of the Massachusetts Consortium on Pathogen Readiness. [Read More](#)

Lichtman Lab Pairs Immunolabeling with Connectomic Data

Harvard University Department of Molecular and Cellular Biology



A team of researchers from the Lichtman Lab *(pictured)* has developed a technique for adding localization data about specific biomolecules to electron microscope (EM) data. Using an approach known as connectomics, the Lichtman Lab collected EM data and uses it to analyze the microstructures of brain tissue and observe new details in a sample from the mouse cerebellar cortex. [Read More](#)

Inocras Enters Agreement with Researchers at Broad Institute on Whole Genome Cancer Research Project

BusinessWire



Inocras, a leader in whole genome sequencing and analytics driving precision health, has entered an agreement with researchers at the Broad Institute of MIT and Harvard for a joint analysis of whole-genome sequencing data from cancer. Leveraging their combined expertise, Inocras and the Broad team will analyze a substantial dataset of cancer profiles to uncover novel insights in cancer genomics. [Read More](#)

The Immunology Podcast: "Myeloid Cells" Featuring Dr. Kipp Weiskopf

The Immunology Podcast



Dr. Kipp Weiskopf *(pictured)* is a Valhalla Fellow at the Whitehead Institute. His research focuses on unlocking the therapeutic potential of macrophages for the benefit of cancer patients. He talks about the role of macrophages in the tumor environment and how targeting the CD47/SIRPα axis can induce phagocytosis of cancer cells. He also discusses starting spin-off companies to advance cancer therapies. [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

- Scientific Advisor, Buenrostro Lab**
Broad Institute
- Scientist, Gene Editing**
Orna Therapeutics
- Postdoctoral Research Fellow**
Harvard Pilgrim Health Care Institute
- Senior Scientist, Ocular Gene Therapy, Genomic Medicine Unit**
Sanofi
- Scientist/Principal Scientist, Peptide and Antibody Bioconjugation**
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