SCIENCE IN BOSTON

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Publications of the Week

Deletion of *Core 1 β3GalT-Specific Molecular Chaperone (Cosmc)* in Murine Intestinal Epithelia Leads to Major Alterations in Glycocalyx and Tumorigenesis

First Author: Tongzhong Ju | Senior Author: Richard Cummings *(pictured)*
Journal of Biological Chemistry | Beth Israel Deaconess Medical Center and Harvard Medical School

Researchers previously observed that targeted deletion of Cosmc in murine intestinal epithelial cells (IEC-Cosmc-KO mice) resulted in dysbiosis and alteration of the microbiome. Here, researchers report a detailed description of these mutant mice and find that IEC-Cosmc-KO mice, but not WT mice, express CD175 throughout the intestinal epithelia. **Abstract | Press Release**

Songbird Connectome Reveals Tunneling of Migratory Neurons in the Adult Striatum

First Author: Naomi Shvedov *(pictured)* | Senior Author: Benjamin Scott
Current Biology | Boston University and MRC Laboratory of Molecular Biology

Immature neurons in the adult brain migrate into existing circuits, contributing to plasticity, learning, and complex behaviors. Few prior studies have investigated the physical interactions between migrating neurons and their surrounding microenvironment. Here, researchers used electron microscopy-based connectomics to examine how migrating neurons interact with mature circuit elements in the adult zebra finch striatum. **Abstract | Press Release**

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Awards

ADA Forsyth Professor Xuesong He Named IADR Distinguished Scientist in Research in Oral Biology

ADA Forsyth

Dr. Xuesong He *(pictured)* of the ADA Forsyth Institute has been named a Distinguished Scientist in Research in Oral Biology by the International Association of Dental, Oral, and Craniofacial Research. "It is truly an honor to be named a Distinguished Scientist in Research in Oral Biology, and I am proud of the impact my research has made on oral biology," said Dr. He. **Read More**

Dr. Katsuhiko Minami Awarded Two Postdoctoral Fellowships to Support Biophysics Research of Meiotic Chromosomes

Harvard University Department of Molecular and Cellular Biology (MCB)

Dr. Katsuhiki Minami *(pictured)*, an MCB postdoctoral researcher in Nancy Kleckner's lab, has been awarded two competitive fellowships to support his research at the intersection of chromosome biology and biophysics. Dr. Minami received funding from the Japan Society for the Promotion of Science as well as the Human Frontier Science Program. **Read More**

Harvard Medical School Professor Stuart Orkin Wins 2026 Breakthrough Prize

Harvard Medical School

Dr. Stuart Orkin *(pictured)*, the Harvard Medical School David G. Nathan Distinguished Professor of Pediatrics at Dana-Farber Cancer Institute and Boston Children's Hospital, has been awarded the 2026 Breakthrough Prize in Life Sciences. The annual $3 million prizes honor transformative advances toward understanding living systems and extending human life. **Read More**

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Local News

New Test Tells Doctors Whether Blood Thinners Are Actually Working

Beth Israel Deaconess Medical Center

Researchers led by Dr. Robert Flaumenhaft *(pictured)* at Beth Israel Deaconess Medical Center have developed a new laboratory test that could make it easier for doctors to tell whether blood-thinning medications are working. The test could serve as a solution for a longstanding challenge in caring for patients at risk for heart attack and stroke. **Read More**

MIT Study Reveals a New Role for Cell Membranes

MIT News

Evidence has recently emerged suggesting that cell lipid membranes do more than simply provide protection — they also influence the behavior of the protein receptors embedded in them. A new study from MIT chemists adds further support to that idea. The researchers, led by Dr. Gabriela Schlau-Cohen *(pictured)* found that changing the composition of the cell membrane can alter the function of a membrane receptor that promotes proliferation. **Read More**

Rett Syndrome Study Highlights Potential for Personalized Treatments

Picower Institute

Using advanced human cell cultures to model Rett syndrome, MIT researchers tracked how two different mutations alter neural circuit development and how each could be addressed with distinct potential therapeutics. "Individual mutations matter," said Dr. Mriganka Sur *(pictured)*, senior author of the study. "This is an approach to personalizing treatment, even for a single-gene disorder." **Read More**

Dang Lab Study Shows Why the Immune System Fails to Eliminate a Dangerous Fungal Pathogen

Ragon Institute

A new study from Dr. Eric Dang's *(pictured)* lab has found that the body's immune system inadvertently protects a dangerous fungus from being destroyed, helping to explain why certain infections linger in the lungs for years and can reactivate with life-threatening consequences. The fungus in question, *Cryptococcus neoformans*, is one of the most common causes of fungal meningitis worldwide. **Read More**

Small Model, Big Insight: RNA Structure Rules Emerge from Minimal Data

Harvard University Department of Molecular and Cellular Biology (MCB)

MCB Senior Research Fellow Dr. Elena Rivas *(pictured)* and colleagues have demonstrated that the fundamental rules governing RNA structure can be learned using a remarkably simple computational model. This new study, published in *Communications Biology*, challenges assumptions that increasingly complex systems are required to uncover basic biological principles. **Read More**

Dana-Farber Phase I Study Explores Toxicity Reduction in Combination of Trastuzumab Deruxtecan and Olaparib in Advanced HER2-Expressing Malignancies

Dana-Farber Cancer Institute

A Phase I study aiming to test tolerability of combination therapy with trastuzumab deruxtecan and olaparib in Human Epidermal Growth Factor Receptor 2-expressing malignancies—including ovarian and uterine cancers—found a tolerable dosing schedule with promising activity. This is according to results reported by Dana-Farber Cancer Institute's Dr. Elizabeth Lee *(pictured)*.
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Upcoming Events in Boston

April 27 - 28 8:00 AM	**Digital Healthcare Innovation Summit** Seaport Hotel Boston
April 30 8:00 AM	**USAIC's 20th Annual BioPharma Summit** The Newbury Boston Hotel
May 28 7:00 PM	**AI and the Future of Cancer Treatments** Museum of Science
June 3 8:30 AM	**Better Together: A Pharma & Biotech EHS Forum** Museum of Science
October 6 - 7 9:00 AM	**FASI 10: Catalyst for a Cure – The Food Allergy Science Innovation Summit** Broad Institute

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Science Jobs in Boston

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STEMCELL Technologies

Research Assistant I, Naqvi Lab
Boston Children's Hospital

Research Assistant II, Vaccine Research
Beth Israel Deaconess Medical Center

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