

Publications of the Week

Molecular Basis for Catabolism of the Abundant Metabolite Trans-4-Hydroxy-L-Proline by a Microbial Glycyl Radical Enzyme

First Author: Lindsey Backman | Senior Author: Catherine Drennan *(pictured)*
eLife | Harvard University and Massachusetts Institute of Technology



The glycyl radical enzyme (GRE) superfamily utilizes a glycyl radical cofactor to catalyze difficult chemical reactions. Recently, a GRE, *trans*-4-hydroxy-L-proline (Hyp) dehydratase (HypD), was discovered that catalyzes the dehydration of Hyp to (S)- Δ^1 -pyrroline-5-carboxylic acid. The authors have solved the crystal structure of HypD from the pathogen *Clostridioides difficile* with Hyp bound in the active site.

[Abstract](#)

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Awards

Margaret O'Connor Receives Charles Turner Award

Boston University



Margaret O'Connor *(pictured)*, Molecular Biology, Cell Biology & Biochemistry PhD candidate of the Man Lab at Boston University, is this year's recipient of the Charles Turner Award. Margaret is investigating the X-linked protein NEXMIF, which is associated with Autism Spectrum Disorder (ASD). She uses a transgenic mouse model to study the role NEXMIF plays in brain development, specifically in relation to neuronal growth and dendritic spine development. [Read More](#)

Amy Gottlieb Receives Elnora Rhodes Service Award from Society of General Internal Medicine

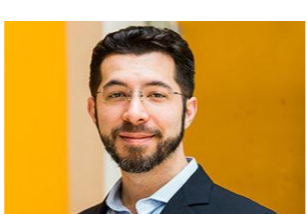
UMass Med Now



UMass Medical School-Baystate faculty leader Dr. Amy S. Gottlieb *(pictured)* has been named recipient of the 2020 Elnora Rhodes Service Award by the Society of General Internal Medicine. The award recognizes the highest level of service to the society and is given annually to an individual for outstanding service in upholding its mission of clinical care, research, education and community service in primary care internal medicine. [Read More](#)

Ed Boyden Wins Prestigious Entrepreneurial Science Award

McGovern Institute



The Austrian Association of Entrepreneurs has announced that Dr. Edward S. Boyden *(pictured)*, the Y. Eva Tan Professor in Neurotechnology at MIT, has been awarded the 2020 Wilhelm Exner Medal. Named after Austrian businessman Wilhelm Exner, the medal has been awarded annually since 1921 to scientists, inventors, and designers that are "promoting the economy directly or indirectly in an outstanding manner." Past honorees include 22 Nobel laureates. [Read More](#)

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Local News

"Inactive" Pill Ingredients Could Raise the Dose of Your Medication

MIT News



The average medication contains a mix of eight "inactive" ingredients added to pills to make them taste better, last longer, and stabilize the active ingredients within. Some of those additives are getting a closer look for their ability to cause allergic reactions in some patients. But now, in a new twist, MIT researchers have discovered that two inactive ingredients may actually boost medication strength to the benefit of some patients. [Read More](#)

Biotech Pushes Blood Disorder Cell Therapy to Clinic after \$80M Round

Boston Business Journal



A Flagship Pioneering-backed cell therapy startup is ready to begin its first in-human tests of a rare disease treatment. Sigilon Therapeutics raised a \$80.3 million Series B round this week from BlackRock-managed funds, the Canada Pension Plan Investment Board, the Longevity Vision Fund and others. The startup, which was founded by noted MIT scientists Bob Langer and Daniel Anderson, will use the money to push its first drug candidate into a clinical trial by mid-year. [Read More](#)

A Galaxy of Drug Candidates

Harvard Medical School



Developing new drugs to treat diseases isn't easy. One way researchers have been attacking the problem is by starting with computers rather than laborious bench experiments to identify compounds that best match the desired treatment target in the body. Now, taking *in silico* screening a step forward, an international team led by Harvard Medical School researchers has developed software capable of preparing and screening billions of compounds. [Read More](#)

Personalized Blood Biopsies Demonstrate Potential as Early Warning Signal of Breast Cancer Recurrence

Dana-Farber Cancer Institute



Researchers in the Gerstner Center for Cancer Diagnostics at the Broad Institute of MIT and Harvard and Dana-Farber Cancer Institute have increased the sensitivity of blood biopsies, demonstrating that they can monitor up to hundreds of different cancer mutations in blood samples from individual patients, with potential to detect cancer recurrence — and inform treatment decisions — years before traditional approaches could. [Read More](#)

More Versatile and Efficient Base Editor Unlocks New Gene-Editing Targets

Broad Institute



A team led by Dr. David Liu *(pictured)* at the Broad Institute of MIT and Harvard has designed a new base editing tool that can fix mutations in the genome much more efficiently and at many more target sites compared to its predecessor, unlocking access to correcting more genetic variants associated with human diseases. The new editor — called ABE8e — can convert A•T base pairs to G•C far faster than the original editor. [Read More](#)

Testing a New Addiction Therapy

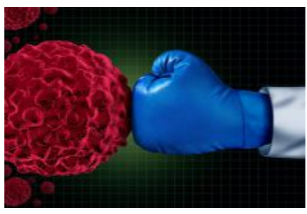
TuftsNow



Opioid-use disorder affects two million people in the United States. Although many people with this chronic brain disorder eventually seek treatment, the vast majority of patients undergoing medical management and psychosocial therapy, some fifty to seventy percent relapse and take the drugs again at least once. Now, Cummings School Assistant Professor Dr. Fair Vassoler *(pictured)* is working with Weinberg Medical Physics to study a new way to potentially curb the opioid cravings that contribute to relapse. [Read More](#)

Gasdermin E: A New Approach to Cancer Immunotherapy

Boston Children's Hospital



Tumors have figured out various ways to prevent the immune system from attacking them. Medicine, for its part, has fought back with cancer immunotherapy. The major approach uses checkpoint inhibitors, which are drugs that help the immune system recognize cancer cells as foreign. Another method, CAR T-cell therapy, directly engineers peoples' T cells to efficiently recognize cancer cells and kill them. New research from Boston Children's Hospital adds another strategy to the arsenal, which could potentially work in more types of cancer. [Read More](#)

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Upcoming Events in Boston

- March 24 1:00 PM **Artificial Intelligence and Disability/Dependency: Equity, Access, and Interdependence** Online
- March 26 8:00 AM **COVID-19 Grand Rounds Series** Online
- April 3 8:00 AM **Autism Partnership Foundation 5th Annual Conference 2020** Online
- April 7 8:00 AM **HMX Pro Genetics – Cancer Genomics and Precision Oncology** Online
- April 7 8:00 AM **HMX Pro Immunology – Immuno-Oncology** Online

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Thermo Fisher Scientific

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Dicerna Pharmaceuticals

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Broad Institute

Associate Director, Strategy & Partnership Management, Rare Diseaseh

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Webinar by Dr. Tenneille Ludwig

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