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Jobs

Events

Publications of the Week

Cross-Modal Autoencoder Framework Learns Holistic Representations of Cardiovascular State First Authors: Adityanarayanan Radhakrishnan and Sam Friedman | Senior Author: Caroline Uhler (pictured)

Nature Communications | MIT, the Broad Institute, and Massachusetts General Hospital A fundamental challenge in diagnostics is integrating multiple modalities to develop



the authors develop a cross-modal autoencoder framework for integrating distinct data modalities and constructing a holistic representation of cardiovascular state. Their results systematically integrate distinct diagnostic modalities into a common representation that better characterizes physiologic state. Abstract | Press Release

a joint characterization of physiological state. Using the heart as a model system,

Contact Us

First Author: Maryna Ivanchenko | Senior Author: David Corey (pictured) Nature Communications | Harvard Medical School and Massachusetts Eye and Ear Usher syndrome type 1F, caused by mutations in the protocadherin-15 gene

Mini-PCDH15 Gene Therapy Rescues Hearing in a Mouse Model of Usher

(PCDH15), is characterized by congenital deafness, lack of balance, and



Syndrome Type 1F

progressive blindness. The authors use rational, structure-based design to engineer mini-PCDH15s in which 3-5 of the 11 extracellular cadherin repeats are deleted, but which still bind a partner protein. Abstract | Press Release View All Publications

Whitehead Institute Researcher Kathrin Kajderowicz Receives Paul & Daisy

Soros Fellowship for New Americans

Awards

Whitehead Institute Kathrin (Kat) Kajderowicz (pictured), a research assistant in the lab of Dr. Siniša Hrvatin and graduate student at MIT, has been named a recipient of a Paul & Daisy



merit-based support for the graduate school programs of highly promising immigrants and children of immigrants. Read More View All Awards 🔵

Researchers from the lab of Dr. Robert Langer (pictured) at the Koch Institute say

COVID-19 mRNA vaccines," was published in Nature Biotechnology. Read More

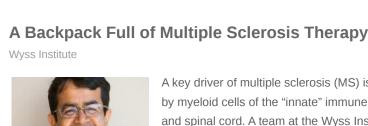
Soros Fellowship for New Americans. The Paul & Daisy Soros Fellowship provides

Microneedle Patch Printer Enables On-Demand Vaccine Manufacturing

Local News

they have developed a printer for microneedle patches smaller than postage stamps that penetrate the skin to deliver vaccines, including the COVID-19 mRNA vaccine. The research article, "A microneedle vaccine printer for thermostable

Genetic Engineering & Biotechnology News



A key driver of multiple sclerosis (MS) is the sudden inflammation of nerves caused by myeloid cells of the "innate" immune system in vulnerable regions of the brain and spinal cord. A team at the Wyss Institute has developed a cell therapy for MS that leverages myeloid cells. "Our biomaterial-based backpack approach is a highly effective way to keep [myeloid cells] locked into their anti-inflammatory state," said Dr. Samir Mitragotri (pictured). Read More

MIT engineers have designed a two-component system that can be injected into the body and help form blood clots at the sites of internal injury. These materials,

introducing two complementary systems in sequence it is possible to get a much

which mimic the way that the body naturally forms clots, could offer a way to keep people with severe internal injuries alive until they can reach a hospital. "By

stronger clot," says Dr. Paula Hammond (pictured). Read More

Two-Component System Could Offer a New Way to Halt Internal Bleeding

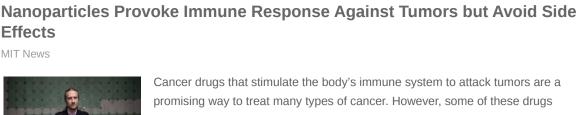
MIT News



Biological Age Increases with Stress and Is Reversed with Recovery, Study A new study in both mice and humans has found that biological age is dynamic, and that some increases in biological age caused by stress can be reversed with recovery. "Despite the widespread acknowledgment that biological age is at least

somewhat malleable, the extent to which biological age undergoes reversible

changes throughout life and the events that trigger such changes remain unknown," said Dr. Vadim Gladyshev (pictured). Read More



Cancer drugs that stimulate the body's immune system to attack tumors are a promising way to treat many types of cancer. However, some of these drugs produce too much systemic inflammation when delivered intravenously, making them harmful to use in patients. MIT researchers in Drs. Darrell Irvine's and Jeremiah Johnson's (pictured) labs have now come up with a possible way to get

In hopes of making it easier to deliver drugs through the skin, MIT researchers in Dr. Canan Dagdeviren's (pictured) lab have developed a wearable patch that

applies painless ultrasonic waves to the skin, creating tiny channels that drugs can pass through. This approach could lend itself to delivery of treatments for a variety of skin conditions, and could also be adapted to deliver hormones, muscle

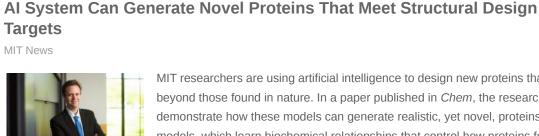
relaxants, and other drugs, the researchers say. Read More

around that obstacle. Read More

Wearable Patch Can Painlessly Deliver Drugs Through the Skin

MIT News

MIT News



MIT researchers are using artificial intelligence to design new proteins that go beyond those found in nature. In a paper published in *Chem*, the researchers demonstrate how these models can generate realistic, yet novel, proteins. The models, which learn biochemical relationships that control how proteins form, can produce new proteins that could enable unique applications, says Dr. Markus Buehler (pictured). Read More

Neurodegeneration, or the gradual loss of neuron function, is one of the key features of Alzheimer's disease. However, it doesn't affect all parts of the brain equally. "It is fascinating that only the lateral mammillary body neurons, not those in the medial mammillary body, become hyperactive and undergo neurodegeneration

in Alzheimer's disease," says Dr. Li-Huei Tsai (pictured). Read More View All Articles 🜔 | Submit an Article 😜

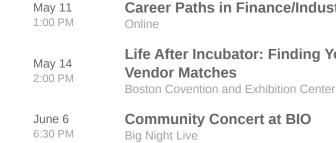
MIT Biology Catalyst Symposium

Neuroscientists Identify Cells Especially Vulnerable to Alzheimer's

岗 Upcoming Events in Boston

6:00 PM

May 4 6:30 PM



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