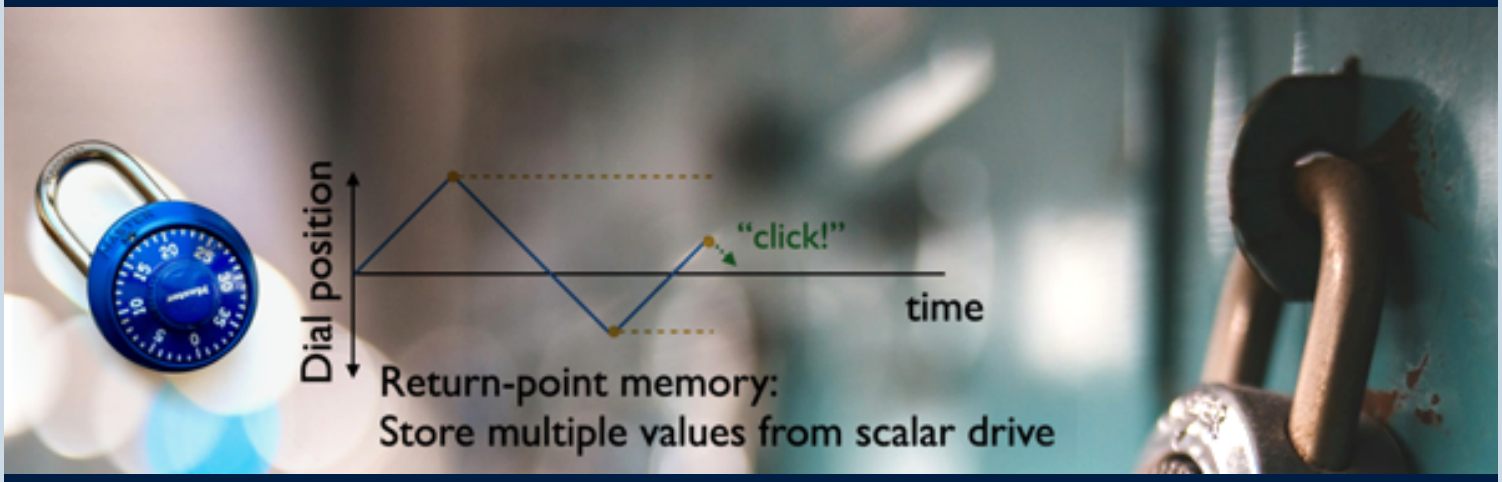
3 Em 2025

E-materials

PennState Materials Research Institute

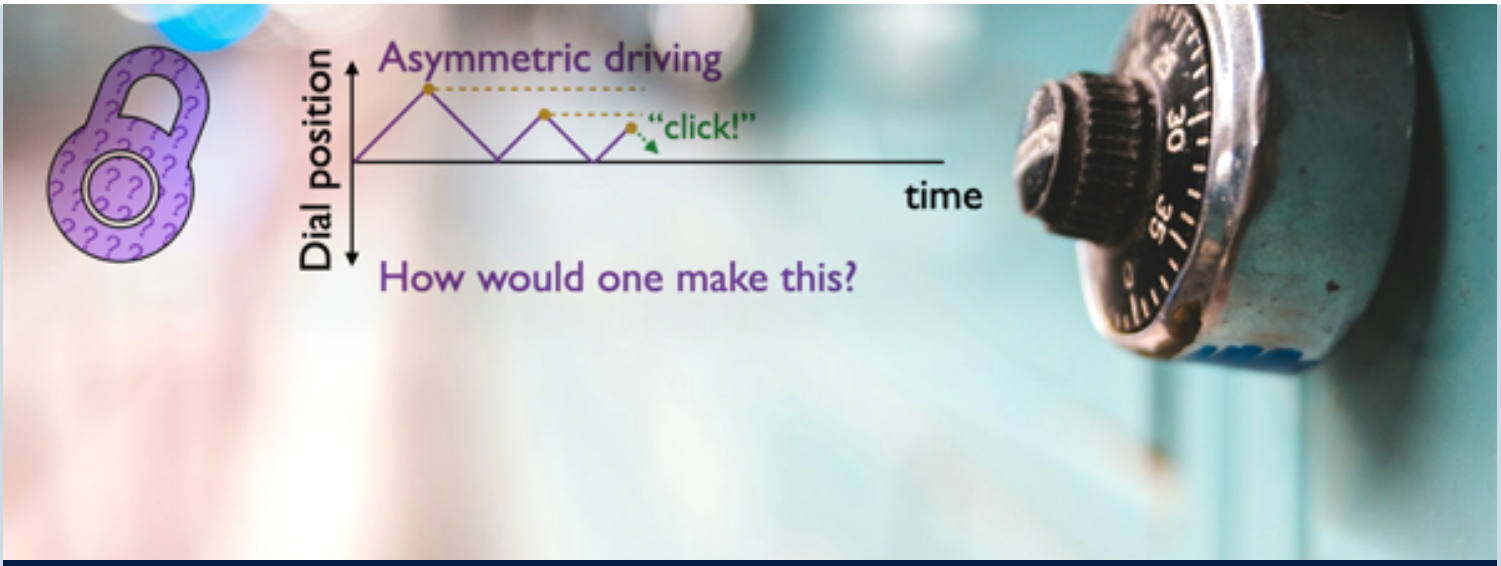
IN THIS ISSUE

FEATURED STORY



MATERIALS CAN REMEMBER

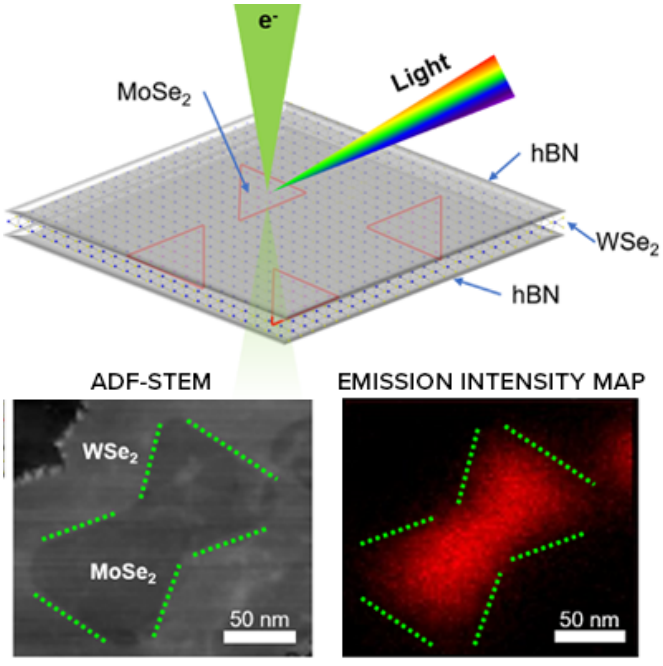
a sequence of events in an unexpected way

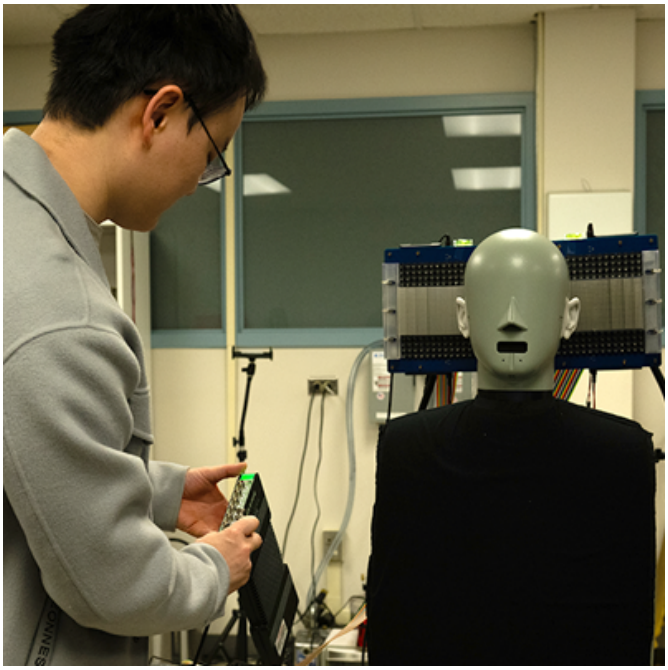


LEAD: ASSOCIATE PROFESSOR NATHAN KEIM

A team led by Penn State physicists has uncovered how, under specific conditions, some materials seemingly violate underlying mathematics to store memories about the sequence of previous deformations. According to the researchers, the method described in the journal **Science Advances** could inspire new ways to store information in mechanical systems, from combination locks to computing.

READ THE ARTICLE





‘Nanodot’ control could fine-tune light for sharper displays, quantum computing

LEAD: ASSOC. PROF. NASIM ALEM

Newly achieved precise control over light emitted from incredibly tiny sources, a few nanometers in size, embedded in two-dimensional (2D) materials could lead to remarkably high-resolution monitors and advances in ultra-fast quantum computing.

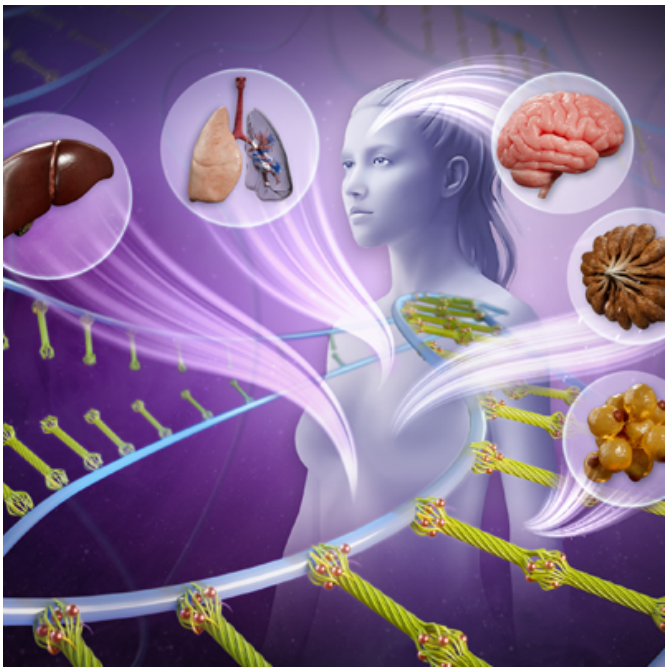
Read More

‘Audible enclaves’ could enable private listening without headphones

LEAD: PROF. YUN JING

It may someday be possible to listen to a favorite podcast or song without disturbing the people around you, even without wearing headphones.

Read More



Novel ‘living’ biomaterial aims to advance regenerative medicine

LEAD: ASSOC. PROF. AMIR SHEIKHI

A new biomaterial developed by Penn State engineers mimics a key building block of human tissue, extracellular matrices, which act like scaffolding and enable cells to heal after damage.

Read More

Visiting Industry Representative (VIR) Program

CONTACT: DAVID FECKO

The Visiting Industry Representative (VIR) Program fosters deeper engagement between industry partners and the Penn State Materials Research Institute (MRI). This program strengthens connections, delivering significant value to both parties.

Read More

FACULTY RECOGNITIONS

DISTINGUISHED PROFESSOR

Zoubeida Ounaies named distinguished professor for outstanding research achievements

Ounaies is one of 10 faculty members from across Penn State's academic colleges recognized as a distinguished professor in 2025. She is a prolific researcher whose work focuses on the development of sustainable polymer-based materials with unique mechanical, electrical, magnetic and coupled properties.

READ MORE

2025 WOLF PRIZE IN PHYSICS

Jainendra Jain named 2025 Wolf Prize laureate in physics

Jainendra K. Jain, Evan Pugh University Professor and Erwin W. Müller Professor of Physics and holder of the Eberly Family Chair in the Penn State Eberly College of Science, has been awarded, along with two others, the 2025 Wolf Prize in Physics for "groundbreaking contributions to quantum matter and its topological potential" that revolutionized "our understanding of two-dimensional electron systems in strong magnetic fields."

READ MORE

NATIONAL ACADEMY OF ENGINEERING

Three Penn State faculty elected to National Academy of Engineering

Three faculty from Penn State's College of Earth and Mineral Sciences (EMS) have been elected to the National Academy of Engineering (NAE). Members of the class of 2025 include Susan Brantley, Atherton Professor and Evan Pugh University Professor Emerita of Geosciences; Long-Qing Chen, Donald W. Hamer Professor of Materials Science and Engineering; and Russell Johns, George E.

Trimble Chair of Energy and Mineral Sciences and professor of petroleum and natural gas engineering.

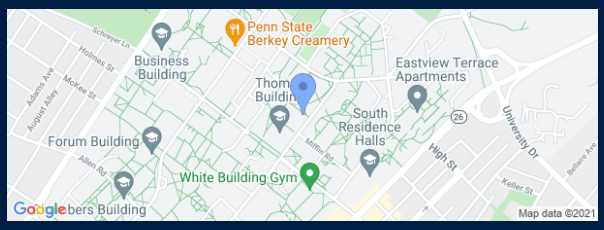
READ MORE

LIKE AND FOLLOW US:

You are receiving this email because you indicated you would like to receive information from the Materials Research Institute at Penn State.

This publication is available in alternative media on request. Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to all qualified applicants without regard to race, color, religion, age, sex, sexual orientation, gender identity, national origin, disability or protected veteran status. UBR RES 24-10

Want to change how you receive these emails?
You can update your preferences or unsubscribe to be globally removed from all communications.



Our mailing address is:
Penn State Materials Research Institute
N-315 Millennium Science Complex
University Park, PA 16802