UT Energy Bulletin | June 2025

Energy@UT News

Professor Arumugam Manthiram Receives the 2025 Olin Palladium Award

UT electrochemist **Arumugam Manthiram** has been recognized with the Electrochemical Society's 2025 Olin Palladium Award for reshaping energy-storage science with his pioneering lithium- and sodium-ion battery cathode research. He will formally receive the honor and deliver the award lecture at the 248th ECS Meeting in Chicago this fall.

Read the announcement

Ten Things I Learned at UTEW

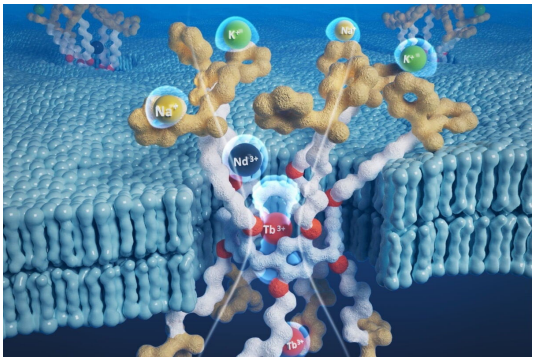
Key takeaways from **UT Energy Week 2025** included arguments that we face an "energy quadrilemma" and that only an aggressive push on all available energy sources, including next-gen nuclear plus large-scale carbon capture, can keep pace with runaway electricity demand from data centers and electrification.

Read more

Blue Hydrogen is Focus of Multi-University Student Design Competition

UT Austin chemical engineering seniors swept the inaugural multi-university Blue Hydrogen Student Design Competition with their design for a 250 million standard cubic feet per day plant that captures >90% of its CO_2, edging out teams from UT San Antonio and University of Houston. Judges from Chevron, ConocoPhillips, ExxonMobil, and other companies were so satisfied with the team's answers they "ran out of questions."

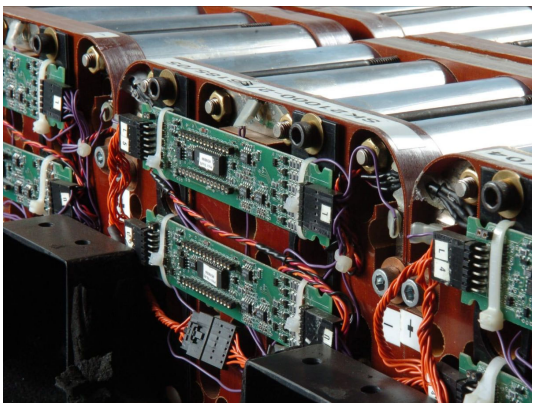
Read more



Rare Earth Element Extraction Bolstered by New Research

Texas Engineers unveiled bio-inspired membrane channels that ferry specific rare-earth ions with a selectivity that is significantly higher than conventional, multi-step separation methods. Led by UT professors Manish Kumar and Venkat Ganesan, the research could lead to a cleaner domestic supply of the critical minerals needed for applications like EV magnets and display tech.

Read more



The Devil is in the Details: Minerals, Batteries, and US Dependence on Chinese Imports

A new Center for Climate & Security brief co-authored by LBJ School professor **Joshua Busby** finds that outdated trade codes and limited data-sharing leave policymakers in the dark about just how dependent the United States is on Chinese minerals, cathodes, anodes, and finished batteries. The authors outline four fixes—from modernizing tariff codes to expanding firm-level data access—to map vulnerabilities and accelerate domestic and ally-sourced supply chains.

Learn more

2025-26 Green Fund Awards Announced

An assessment of the feasibility of and benefits from installing photovoltaic (PV) panels on ten UT Austin campus parking garages and an investigation into opportunities to improve the energy efficiency of the UT School of Architecture's historic Sutton Hall are among the twenty projects funded via the 2025-26 Green Fund Awards, administered by UT's Office of Sustainability.

Learn about the projects

Featured Publication

"Something old, something new" – Good luck for weddings and future energy, too

Researchers at The University of Texas at Austin have re-imagined the kraft paper that insulates power-grid transformers by peppering it with microscopic flakes of boron nitride. The resulting nanopaper wicks heat away about three times faster while holding its electrical strength, cooling the hottest spots inside a transformer by roughly 9 °C. That temperature drop could extend service life by a factor of two and ease today's replacement backlogs, all with a recipe compatible with existing paper

mills.

Read more

News From Around Campus

Texas Advanced Computing Center

Dan Stanzione was quoted in ***The Texas Tribune*** about carbon-footprint concerns raised by AI-driven data-center projects that plan to build on-site gas plants instead of relying on the ERCOT grid.

LBJ School of Public Affairs

David Eaton was quoted in ***The Daily Texan*** about Austin City Council's plan to install solar systems on municipal buildings, saying rooftop solar could deliver cheap, clean power and avoid the need for new gas-fired plants.

Cockrell School of Engineering | Webber Energy Group

Joshua Rhodes was quoted in the ***San Antonio Express-News*** saying the rapid build-out of battery storage is cutting ERCOT's chance of summer rolling blackouts by filling the evening gap after solar output drops.

Energy Institute

Jorge Piñón was quoted in the ***Taipei Times*** saying it could take "three to five years" and up to US $8 billion to solve Cuba's worsening energy crisis.

Cockrell School of Engineering | Hildebrand Department of Petroleum and Geosystems Engineering

Arvind Ravikumar told the ***Texas Observer*** that a report warning of climate impacts from a massive U.S. gas-pipeline build-out may overstate U.S. responsibility because international carbon accounting only counts emissions produced within national borders.

Jackson School of Geosciences | Bureau of Economic Geology

Lorena Moscardelli and **Ning Lin** spoke with ***Midland Reporter-Telegram*** about a new research effort to align data center expansion with opportunities for efficiency on the Texas electric grid using solutions like microgrids, local generation, and storage.

Cockrell School of Engineering | Maseeh Department of Civil, Architectural and Environmental Engineering

Kara Kockelman and **Randy Machemehl** told ***The Daily Texan*** that Tesla should slow its Austin robotaxi rollout, warning the camera-only vehicles may struggle in rain or darkness and that unexpected scenarios can still outwit today's self-driving systems

Kockelman also told ***Marketplace*** that a House GOP plan to levy a flat $250 annual "road-maintenance" fee on electric-vehicle owners would make many EV drivers pay nearly three times what the average gasoline motorist contributes in federal fuel taxes, risking a slowdown in EV adoption without meaningfully fixing the Highway Trust Fund shortfall.

Cockrell School of Engineering | Walker Department of Mechanical Engineering

Arumugam Manthiram was quoted in a piece in ***The New York Times*** about tariffs' impact on U.S. efforts to compete with China on LFP batteries, which use chemistry developed at UT Austin in the 1990s but were not widely adopted in the U.S. until recently, in response to demand for large-scale energy storage.

Upcoming Events

Energy Market Realities and Macroeconomic Signals: A 2025 Mid-Year Perspective

Thursday, June 26, 2025, 2:00–3:30 PM
Yarborough Branch Library (2200 Hancock Dr, Austin, TX 78756) – Room #1

More information

2025 IEEE PES General Meeting

July 27-31, 2025
J.W. Marriot
Austin, Texas

More information

10th Annual Permian Basin Conference Produced Water in the Permian: The Water Balancing Act

August 11-13, 2025
Bush Convention Center
Midland, Texas

More information

Save the Date for KBH Energy Center's 2025 Energy Symposium

September 12, 2025
AT&T Hotel and Conference Center
The University of Texas at Austin

EnergizeUT 2025

September 23, 2025
The University of Texas at Austin

Add to calendar

Save the Date for Hydrogen Day 2025

October 8, 2025
The University of Texas at Austin

Add to calendar

EEMDL
Energy Emissions Modeling and Data Lab

EEMDL 2025 Annual Event:

Advancing MMRV Initiatives in Global Greenhouse Gas Emissions Management

October 21-23, 2025
AT&T Hotel and Conference Center
The University of Texas at Austin

More information

Save the Date for UTCCS-8

January 27-29, 2026
JJ Pickle Research Center

Add to calendar

Save the Date for Energy Week 2026

April 6–10, 2026
The University of Texas at Austin

Add to calendar

#ICYMI

Video from Nuclear Engineering Associate Professors **Kevin Clarno** and **Derek Haas**' talks at UT Energy Week 2025 are now online. Clarno discussed how virtual reactor models can streamline nuclear licensing and innovation and Haas presented on building an advanced nuclear reactor in Abilene, Texas. **Watch the video**.

Thanks to our corporate partners and event sponsors for their generous support of UT's Energy Institute.

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