New discoveries in energy storage materials

The discovery, detailed in a study published yesterday in Nature, involves a new thermal energy storage (TES) material that could help ...

Machine learning plays an important role in accelerating the discovery and design process for novel electrochemical energy storage materials. This review aims to provide ...

MatterGen"s ability to generate stable, novel materials with tailored properties can accelerate the discovery of new catalysts with optimized performance or energy-storage ...

Ultrahigh Energy Storage in 2D High-? Perovskites. Credit: Minoru Osada, Nagoya University Researchers have developed an advanced dielectric capacitor using ...

A new study led by researchers from the Department of Materials Science and NanoEngineering at Rice has introduced an innovative solution that could impact ...

Atom RSS Feed Materials for energy and catalysis are materials with electrochemical properties that makes them suitable for use in energy storage applications, ...

Their discovery could help scientists to develop better batteries, which would allow electric vehicles to run farther and last longer, while also ...

A multi-institutional research team led by Georgia Tech"s Hailong Chen has developed a new, low-cost cathode that could radically improve lithium-ion batteries (LIBs) -- ...

The latest advancements in artificial intelligence and machine learning have therefore increased the expectation that data-driven materials science would revolutionize ...

Columbia Engineering scientists are advancing renewable energy storage by developing cost-effective K-Na/S batteries that utilize common materials to store energy more ...

Machine learning (ML) techniques have been a powerful tool responsible for many new discoveries in materials science in recent years. In the field of ...

Data-driven ML approach displays the advantage of quickly capturing the complex structure-activity-process-performance relationship, and is promising to offer a new ...

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Tech Scientists develop record-breaking power storage device: " [This] has the potential to reshape the ... energy landscape" The discovery came through careful research ...

Importantly, we utilized this approach for discovering promising redoxmers from an unseen database of 1 million BzNSN-based molecules, ...

It""s a vision so large that Meng, a materials scientist, felt compelled to leave her lab at the University of California, San Diego, to join the Argonne National Laboratory, outside ...

How much energy we use and where it comes from has long been the central problem of the climate crisis. That"s why some strategies have turned to tapping into new, cleaner fuels. A ...

PNNL is a U.S. Department of Energy laboratory doing research in several areas, including chemistry and materials science, and its objectives include energy security and ...

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As mentioned earlier, ML has already played an important role in the field of energy storage material discovery and performance prediction, such as exploring new ...

Rechargeable Batteries for Large-Scale Energy Storage New discoveries and advances related to various types of rechargeable battery energy storage technologies, including but not limited to: ...

There are several key energy technology trends dominating 2025. Security, costs and jobs; decarbonization; China; India; and AI all need to be carefully monitored. The World ...

The discovery of this new type of electrolyte material is notable not only for its potential as a sustainable energy-storage solution, but also ...

Andy Colthorpe speaks to Maria Skyllas-Kazacos, one of the original inventors of the vanadium redox flow battery, about the origins of the technology and its progression.

Many problems can be addressed through the discovery of new materials that improve the efficiency of energy production and consumption; ...

A brand new substance, which could reduce lithium use in batteries, has been discovered using artificial intelligence (AI) and ...

Monash University researchers have made a breakthrough in energy storage technology that could

significantly advance the global shift away from fossil fuels. The discovery, detailed in a ...

The discovery, detailed in a study published Dec. 18 in Nature, involves a new thermal energy storage (TES) material that could help harness renewable energy more effectively and efficiently.

Discovering new materials for clean energy future is one of the bottlenecks. Artificial intelligence (AI) approaches can provide exceptional ...

Abstract The transition to electric vehicles (EVs) and the increased reliance on renewable energy sources necessitate significant advancements in electrochemical energy ...

The two organizations have committed to leveraging advanced AI models to find viable new materials and the chemistries needed to provide ...

To meet global energy needs sustainably, countries must combine multiple approaches. These scientists are pursuing breakthroughs in ...

The development and deployment of new materials play a central role in almost all new clean energy technologies, including high-e cient energy production, storage, conversion, and ffi ...

Buildings, batteries and "wild ideas" By finely tuning the ways these materials react to heat and other forms of energy, researchers could ...