

Sage Kokjohn - advanced combustion, high pressure sprays, fuel chemistry, thermal efficiency; Tom Krupenkin - nanotechnology, micro and nano fluidics, renewable energy; Weiyu Li - energy storage systems, smart agriculture, biomedical modeling; Allison Mahvi - heat and mass transfer, thermal energy storage, HVAC and power systems

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Madison, WI 53718. Lab Website. Departmental Website. PubMed Publications ... Energy Storage Technology & Systems, Sandia National Laboratories; Doctor of Philosophy - Chemistry, Northern Illinois University; Bachelor of Science - Chemistry, University of Wisconsin-Oshkosh; Trainees. Current Trainees. Steffi Omadio; Kate Mongold; Past ...

Whether for insight into charge screening and double layer formation at the electrode-electrolyte interface or for ion coordination and mobility in the bulk salt, these studies can guide electrolyte design for energy storage devices.

Researchers at UW-Madison have helped develop a new system that could make it easier to capture clean energy from the sun and deliver electricity in remote areas. Integrating ...

Reaching UW-Madison's 2030 goal will take serious assistance from its energy partners, largely from Madison Gas and Electric, as space on the 900-acre campus is limited for generating the amount of renewable energy the university needs. UW-Madison also will need to develop more solar on campus as it constructs new buildings.

From batteries to solar panels, the materials used to create clean energy technologies are often the crux of their innovation. By developing new materials and new fabrication methods, researchers at UW-Madison increase the efficiency and cost-effectiveness of existing energy technologies while also creating new possibilities.

Chemists at the University of Wisconsin-Madison and their collaborators have created a highly efficient and long-lasting solar flow battery, a way to generate, store and ...

College of Letters & Science. On July 1, 2024, Julian Cooper will join the University of Wisconsin-Madison's Department of Chemistry as an assistant professor to research and unlock new modes of chemical reactivity in materials.

As part of an effort to overcome the long-term energy-storage challenge, University of Wisconsin-Madison engineers have invented a water-soluble chemical additive that ...

Ive Hermans is a professor at the University of Wisconsin-Madison's Department of Chemistry with a dual appointment in the Department of Chemical and Biological Engineering. Hermans' work focuses on the synthesis of chemicals and energy carriers using catalytic technology. The Hermans group studies various aspects of catalytic systems: (1) precision synthesis of ...

Researchers at UW-Madison have helped develop a new system that could make it easier to capture clean energy from the sun and deliver electricity in remote areas. Integrating pieces of existing technology, chemistry Professor Song Jin and research assistant Wenjie Li built a "solar flow battery" that can both generate and store electricity.

Song Jin. Position title: Francis J. DiSalvo Professor of Physical Science Email: jin@chem.wisc Phone: 608.262.1562 Address: Room 3363A, Department of Chemistry 1101 University Avenue Madison, WI 53706. Research Website Jin Group

The solar flow battery, made by the Song Jin lab in the UW-Madison chemistry department, achieved a new record efficiency of 20 percent. That bests most commercially available silicon solar cells used today and is 40 percent more efficient than the previous record holder for solar flow batteries, also developed by the Jin lab .

Hirschfelder Chair in Theoretical Chemistry Director, Theoretical Chemistry Institute Department of Chemistry Member, Biophysics Graduate Program Affiliate, Data Science Institute (DSI) University of Wisconsin-Madison Google Scholar Profile [EDUCATION](#) 2006 Ph.D. in Chemical Physics, Columbia University (Thesis advisor: B. J rne) 2001 B.S. in Chemical Physics, ...

Song Jin is interested in the chemistry and physics of nanoscale materials and their renewable energy applications. He studies a variety of nanomaterials including transition metal silicide nanowires and metal oxide and chalcogenide nanomaterials, their novel physical properties and applications in photovoltaic and thermoelectric energy conversion, energy storage (Lithium ion ...

University of Wisconsin-Madison engineers are supporting a first-of-its-kind energy storage system in the United States that could come online as early as 2026 in Wisconsin's ...

175 Years of Energy Research. Energy-related research at the University of Wisconsin-Madison has evolved over the institution's first 175 years, from departmentally-segregated work focused largely on technological innovation to a more holistic and interdisciplinary approach that bridges technologies, environmental and social impacts, and policy.

Department of Chemistry University of Wisconsin-Madison. wli@chem.wisc . Personal Website: Biographical Sketch. B.S. Chemistry, Fudan University, 2014 Ph.D. University of Wisconsin-Madison, 2014-present. Research. I am primarily interested in exploring and understanding materials for energy conversion and storage applications.

The master program in Environmental Chemistry and Technology offered by the University of Wisconsin-Madison has been organized to offer advanced ... include the development of advanced technologies and materials for air and water purification and for the saving and storage of energies, alternative energy technologies, water and air pollution ...

Building sustainable batteries. Flux XII: Renewable long-duration energy storage. Flux XII is a provider of sustainable energy batteries designed for cost-effective, safe, and long-duration energy storage. The innovative, rechargeable flow battery technology was developed in the lab of co-founder Dawei Feng, assistant professor of materials science and engineering at ...

Shannon Stahl's research focuses on the field of catalysis, and his lab's work draws upon and impacts a number of areas of chemistry, including synthetic and mechanistic aspects of Organometallic Chemistry, Organic Chemistry, and Inorganic Chemistry. Many of the exciting new methods in organic synthesis consist of catalytic reactions.

In a move that could improve the energy storage of everything from portable electronics to electric microgrids, University of Wisconsin-Madison and Brookhaven National Laboratory researchers have developed a novel X-ray imaging technique to visualize and study the electrochemical reactions in lithium-ion rechargeable batteries containing a new type of ...

Materials engineers at the University of Wisconsin-Madison are developing an inexpensive, safe and sustainable grid-scale device called an aqueous organic redox flow battery (AORFB). In research published August 3, 2023 in the journal Nature Energy, they demonstrate a platform to design and synthesize molecules for the cathode (positive) side ...

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Mike Wagner, an assistant professor of mechanical engineering at UW-Madison who works on energy system modeling and energy storage optimization, says it's likely that energy storage will develop in two phases. Currently, wind and solar power are expanding at a rapid rate and are expected to produce about one-third of the world's electricity ...

Robert Hamers' research lies at the intersection of chemistry, materials science, and nanotechnology. Hamers and his group are interested in developing and exploiting new types of surface chemistry to create and improve

next-generation devices for renewable energy, and are interested in understanding the potential environmental and health effects associated with ...

Physical Chemistry Seminar: Professor Song Jin, University of Wisconsin-Madison (Host: ... materials for electrocatalysis, solar energy conversion, energy storage, optoelectronics, nanospintronics, and biotechnology. Dr. Jin has authored or co-authored over 240 publications and 8 patents. He has been recognized with a NSF CAREER Award, a ...

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