NSF Center for the Mechanical Control of Chemistry * January 2025

Dr. Altman Receives NSF CAREER Award



Dr. Alison Altman, Assistant Professor of Chemistry at Texas A&M University, has received the prestigious NSF CAREER Award through the Solid State Materials Chemistry Program of the Division of Materials Research. Her project, "Pressure-Directed Synthesis of Anisotropic Lanthanide Materials," employs high-pressure techniques to develop novel magnetic materials. These materials have potentially transformative applications, such as new information processing platforms. In addition to cutting-edge research, Dr. Altman's award also supports educational outreach initiatives, including a "Materials Chemistry of Food" curriculum for K-12 students and an X-ray crystallography workshop for undergraduate and graduate students across East Texas.

Congratulations, Dr. Altman!

Moving Mechanochemistry Forward: A Must-Read Editorial from RSC Mechanochemistry



Computational Sustainability
Chemistry Solid-state Chemistry
Reaction Kinetics Milling Energy storage
Green Chemistry Tribochemistry
Organic Mechanochemistry
Mechanical Energy Industrial Applications
Biological mechanochemistry
Mechanocatalysis Mechanosensing
Future Mechanoresponsive materials
Material Science Single-molecule activation

Mechanochemistry, a field with both ancient and modern roots, is experiencing rapid growth across diverse scientific disciplines. This field has significant implications for various areas of chemistry, impacting organic synthesis by offering sustainable, solvent-free routes; enabling the synthesis, modification, and recycling of inorganic materials; driving innovation in polymer chemistry; and facilitating the development of supramolecular materials. Biological systems, which utilize mechanochemical processes for signal conversion and adaptation, serve as inspiration for biomimetic materials, and provide tools for diagnostics and therapeutics. To learn more about the fundamentals and historical significance of mechanochemistry, check out the editorial published this month in the RSC Mechanochemistry Journal by James Batteas, Kerstin Blank, Evelina Colacino, Franziska Emmerling, Tomislav Friščić, James Mack, Jeffrey Moore, Maria Elena Rivas, and Wilfred Tysoe.



Mechanochemistry: An Enabling Technique for Organic Synthesis, Catalysis and More

On January 16, Prof. Dr. Carsten Bolm shared captivating insights into how mechanical energy is transforming chemical reactions and driving breakthroughs in organic synthesis and catalysis. You can watch his seminar on our CMCC Mechanochemistry Discussion YouTube channel.

Watch here and join us every third Thursday of the month!

Scan the QR code to access the Spanish version! Escanee el código QR para acceder a la versión en español!





Monthly Dose of Science Humor

I tried to explain mechanochemistry to my blender...



But it couldn't handle the pressure!

Image created with the help of Microsoft Copilot

The Batteas Group Brings Chemistry to Life at Rudder High School



Photo: Left to Right: Katie Floyd, Lizette Mella, E.J Broker, and Maya Costales at Rudder High School.

Four graduate students from Dr. Batteas' group represented the CMCC at a local high school in Bryan, Texas. They led three engaging science demonstrations and shared insights about studying chemistry in college, their journey to graduate school, and tips for making the most of academic opportunities.

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