Northwestern | McCORMICK SCHOOL OF ENGINEERING

Chemical and Biological Engineering

FROM THE CHAIR / Spring 2025

Dear colleagues and friends,

The Department of Chemical and Biological Engineering has much to celebrate in this newsletter, from new advances in science and technology our researchers have achieved to the great futures in store for our graduates. However, these are also challenging times.

As you may have heard, a majority of Northwestern's federally funded research is subject to stop work orders or other funding interruptions. Our department hasn't been spared from these actions, but we will continue our efforts to impact and shape the world through inventions and innovations in our five areas of strength: soft materials, complex systems, synthetic biology, biotechnology, and catalysis. We use these tools to tackle global challenges in energy, (bio)manufacturing, clean water, and human health. We also remain committed to providing students with the knowledge, experience, and adaptability to prosper in their careers that are essential to US leadership in technology, health, energy, business, and many other sectors. Now, it's more important than ever to share the value and impact of our work — reinforcing why our work matters.

Despite the obstacles we face, we've also achieved significant successes.

Our faculty have recently earned prestigious honors and driven groundbreaking research across sustainability, health, and materials science. Professors **Linsey Seitz**, **Joshua Leonard**, **Randall Snurr**, and **Julius Lucks**

were recognized with major career distinctions, while teams led by Lucks, Leonard, **Jeffrey Lopez**, **Tobin Marks**, and **Jennifer Dunn** advanced innovations and collaborations in carbon-negative materials, plastic recycling, water testing, and interdisciplinary sustainability efforts.

The successes extend beyond campus. For any alumni reading this, I urge you to reach out with your achievements and accolades. For example, I recently heard **Zenaida Otero Gephardt** (‘77) was named the Delaware Valley Engineer of the Year, while **Sara Yacob** (PhD ‘15) is receiving a mid-career practice award from the American Institute of Chemical Engineers Catalysis and Reaction Engineering Division.

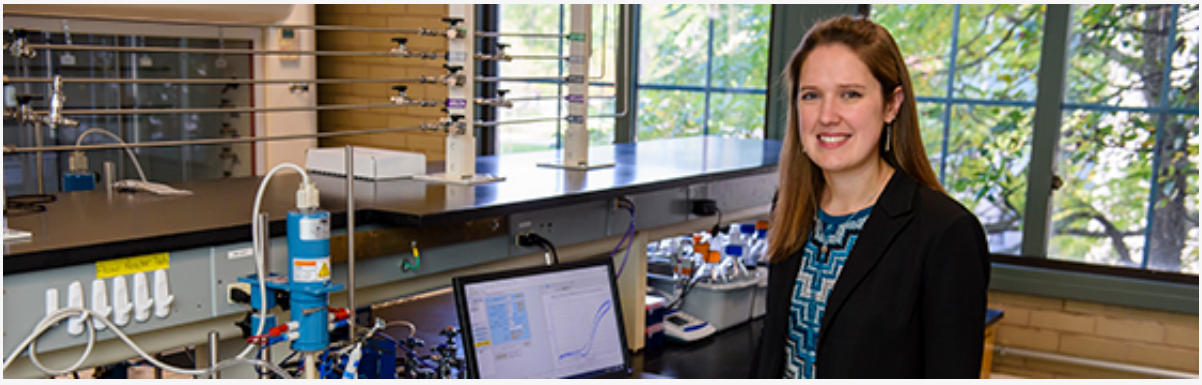
I am constantly reminded of our community’s resilience, our dedication to research and education, and the momentum of our work. We face many uncertainties for the year ahead, but we remain true to our mission. I am immensely proud of the work being done across the department and of the students we train.

Justin Notestein

Professor and Chair

Department of Chemical and Biological Engineering

McCormick School of Engineering



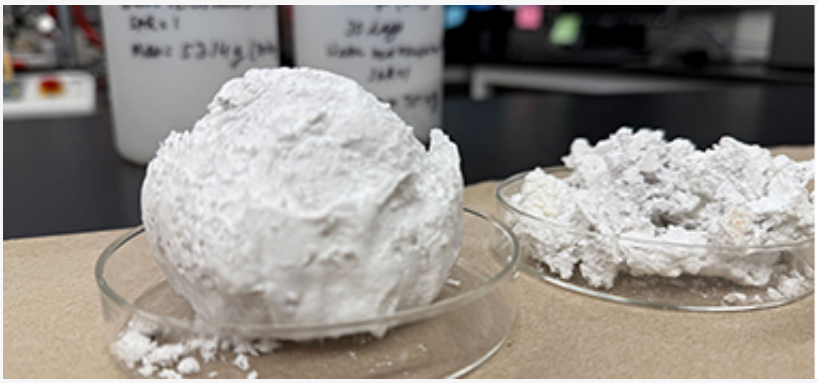
Seitz Named Sloan Research Fellow

The honor for Professor **Linsey Seitz,** whose work advances electrocatalytic technologies for sustainable energy, highlights the creativity, innovation, and

research accomplishments of early-career researchers.


Leonard Inducted into AIMBE College of Fellows

Professor **Joshua Leonard** is part of AIMBE's College of Fellows Class of 2025, among the highest professional distinctions accorded to medical and biological engineers.




New Carbon-Negative Material Could Make Concrete and Cement More Sustainable

The innovative process developed by a team including Professor **Jeffrey Lopez** converts CO2 into solid, durable, carbon-trapping materials.

Plastic Recycling Gets a Breath of Fresh Air

A team of scientists with Professor **Tobin J. Marks** broke down plastic using a simple, inexpensive catalyst and air.

Contamination Detection Tool Enables Highly Sensitive Water Testing

A product of multi-disciplinary Northwestern Engineering research with a team including Professor **Julius Lucks**, the cantilever-based test detects harmful chemicals in water at concentrations down to parts per billion.

Jamboree Sparks New Vision for University-Wide Water Research

Organized by Professor **Jennifer Dunn**, the interdisciplinary event united faculty to tackle water challenges and sustainability.

Department News

A multi-institutional team of researchers, including Professor **Joshua Leonard**, **received up to $34 million** from the Advanced Research Projects Agency for Health to fast-track the development of a low-cost bioelectronic implant to treat patients with obesity and Type 2 diabetes.

Professor **Julius Lucks** was **named a fellow** of the American Association for the Advancement of Science.

Professor **Randall Snurr** was elected a fellow of the American Institute of Chemical Engineers.

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