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GREETINGS FROM NORTHWESTERN ENGINEERING

We live surrounded by technology. It can help us work more efficiently, explore new environments, and overcome physical challenges. Collaboration with technology unlocks new possibilities, and at Northwestern Engineering, we are driving this evolution. However, it is also critical that we understand the positive and negative impacts that technology can have in our lives and in society at large.

Our new Center for Robotics and Biosystems envisions a future where humans and robotics work seamlessly together. We can trace this thinking to the 1990s when our faculty invented “cobots” that were used in a General Motors assembly line, not to replace human workers, but to help them. This type of research continues today with projects like partially autonomous wheelchairs that interact in specific ways with patients with different medical conditions.

One of the ways that we are looking to develop the tools needed to manage the impact of technologies is through our growing collaboration with colleagues at the Pritzker School of Law. As artificial intelligence becomes integrated with the justice system, and with it the potential to guide litigation and legislation, it is a critical time to join forces to understand and guide these implications. From courses that bring together law and computer science students to a cross-disciplinary project that enables artificially intelligent access to court records, the initiative aims to spark innovation and drive positive change in the justice system.

Another way to think about the implications of technology, both now and far into the future, is to curate dialogues with people with widely different viewpoints. An example of this is our partnership with the Mary and Leigh Block Museum of Art. Dario Robleto serves as our inaugural Artist-at-Large, instigating conversations among researchers in areas such as synthetic biology who are eager to consider the potential implications of their groundbreaking research.

In this issue we also celebrate the election of Professors Wei Chen and Linda Broadbelt to the National Academy of Engineering, one of our field’s highest honors. Not only are each of these women renowned engineers, both are also accomplished educators and mentors. We are lucky to call them our colleagues.

These are just some of the stories about pathbreaking research and achievements from faculty and students that I am delighted to share with you in this issue. It is a truly exciting time to be at Northwestern Engineering.

As always, I welcome your feedback.

JULIO M. OTTINO
Dean, McCormick School of Engineering and Applied Science

On the Cover At the Center for Robotics and Biosystems, a swarm of 100 ground robots can self-assemble into specific shapes. Photography by Justin Barbin

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Executive Director of Strategic Initiatives and Marketing: Kyle Delaney
Managing Editor: Julianne Hill
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