Greetings from McCormick.

At McCormick we often say that we strive to develop whole-brain engineers. We want our students and faculty to have a strong foundation in mathematics, analysis, and logic—all considered “left-brain” skills—but we also want them to develop “right-brain” creativity, intuition, and imagination.

This is a metaphor, of course. The brain cannot be reduced to halves; it is vastly more complex. Humanity’s greatest achievements and its most shameless failures emerge from it, and yet we understand very little about it, how it works, or how it evolves. It is the ultimate complex system: even a perfect understanding of the smallest parts, neurons—an impossibility, of course—would not give us an understanding of the system as a whole and how consciousness emerges.

As you will read in this issue, several McCormick faculty members are tackling the brain from their niche research areas, from mathematical modeling of neurons to nanotechnology-driven thinking that may advance treatment of neurodegenerative diseases. Continued progress in this area will require a true meeting of minds, the ultimate cross-disciplinary collaboration. I am eager to see what our team does next.

We are also excited to feature several of our most talented undergraduate researchers. A growing number of undergraduates participate in research in our laboratories, often serving as essential team members and coauthors on published papers. I myself have worked with mechanical engineering senior Marissa Krotter for four years, and in December she appeared as lead author on a paper that was featured on the cover of the *International Journal of Bifurcation and Chaos*. Even if students do not ultimately pursue careers as researchers, participating in research as undergraduates teaches them valuable lessons: how to ask questions and how to fail.

As Marissa says, “In class, if you’re working on a project or doing homework, you have an answer set so you know if you’re on the right track. Research is completely open-ended. It’s all new terrain.”

When prospective students visit, they frequently ask where our recent graduates find jobs. We are lucky to have a base of alumni who chart their own courses, be it in large or small companies, in the United States or abroad. In this issue we feature six young alumni who have started their own companies or have risen quickly in their chosen fields. We teach engineers how to think and give them a toolset and a mindset to carry them over the span of their careers, and it is exciting to see young alumni using their education from day one.

I hope you will take some time to explore this magazine and learn more about how we think and where we are going.

As always, I welcome your feedback.

Julio M. Ottino, Dean | April 2013