In a world of accelerating transformation, boundaries between science, engineering, technology, and medicine are blurring. Under these dynamic conditions, we face global challenges of a scale never before seen. Engineering plays a critical role in addressing our challenges. That’s why we are building the Robert R. McCormick School of Engineering and Applied Science at The Great Intersection: the intersection of global challenges and the knowledge required to solve them.
This intersection provides a framework through which to view the world, and we are making strategic investments in research areas that will drive our progress in the coming years. These areas themselves intersect, involving faculty members throughout the school.

We are focusing on two areas of core knowledge: systems and materials. Research into systems seeks to understand the many interactions that shape our world and to use that knowledge to build new, effective solutions. The study of materials provides the substance for many solutions, and advances in materials science unlock avenues that were previously unimaginable.

These areas of knowledge intersect with two of the greatest global challenges: energy and environment and health and wellness. As traditional energy sources diminish, we live in a time when tackling energy and environmental problems requires both finding new sources of energy and increasing the efficiency of our current sources, all while understanding and minimizing their effect on our environment.

Another grand challenge is ensuring the health and wellness of all people. The problems we face are broad and complex, requiring new ways of thinking about health care, technology, and processes. In both areas of challenge, multidisciplinary teams of researchers combine complementary specialties and thinking to study problems at all levels, from molecular changes to complex systems.

At the core of our efforts is a commitment to creating leaders who thrive at The Great Intersection. We educate engineers who have superior technical abilities combined with divergent, creative thinking skills: whole-brain entrepreneurs, designers, communicators, and, ultimately, leaders in industry, academia, and beyond who thrive at this intersection. Underlying our efforts is design, which permeates our curriculum and offers a way to frame ideas.

The following pages showcase representative projects in each of our strategic areas.