

# The Medical Innovation Center

**I**N SURGERY, SIZE MATTERS. That might be most evident in pediatric surgery, the specialty of Jim Geiger, an associate professor of surgery at the University of Michigan Medical School. “Children’s bodies – their limbs, organs, arterial systems and so forth – vary dramatically in size. Adults vary, too, but not as markedly. This means that, in the world of surgical instruments, one size does not fit all. So, pediatric surgeons faced a problem: We had to modify either the surgical procedures or the instruments or both.”

That’s the kind of problem that attracts innovative minds, no matter what disciplines they might be from – in this case they came from surgery, biomedical engineering, industrial and operations engineering, materials science and engineering, business and law. Geiger said that he’s “fascinated with the direction that the world’s heading and how it’s getting there. The path is complex. More disciplines are connecting, which is how I got into discussions with Albert Shih, Sridhar Kota and Shorya Awtar.”

Shih and Kota are professors in the Department of Mechanical Engineering. Awtar is an assistant professor in the same department. With Geiger they’re working to develop better surgical instruments. One project is FlexDex, an instrument with increased flexibility. With Shih, Geiger created thermal-regulated surgical devices that, for example, make incisions and simultaneously cauterize blood vessels to reduce bleeding and collateral damage.

These were extraordinary technical achievements, but it takes an entrepreneurial mindset to bring them to market. Geiger, Shih and Kota are partnering with Tim Faley and Tom Kinnear, both from the Stephen M. Ross School of Business, and Jeff Myers from the Medical School. Faley is a senior research program officer specializing in entrepreneurial programs. Kinnear is the Eugene Applebaum Professor of Entrepreneurial Studies and a professor of marketing. Myers is the A. James French Professor of Diagnostic Pathology, and director, Division of Anatomic Pathology. They’ve been collaborating to create a unit that focuses on medical innovation and entrepreneurship. That idea blossomed into the Medical Innovation Center, a partnership of U-M schools and colleges that has a goal of becoming a fountainhead for healthcare innovation.

“We’re looking to solve problems locally and deliver solutions throughout the state, the country and the world,” Geiger said. “Ultimately, progress in entrepreneurship is about our survival, and the Center is quickly becoming a key player in the University’s culture of innovation and entrepreneurship.”

The Center will have a dynamic new meeting space where people from various disciplines intersect. A curriculum and mentoring system are in the works to educate leaders in cross-disciplinary research. An Innovation Fellowship for scientists and other professionals will accelerate the development of innovative biomedical devices, technologies and processes.

“We’ll host seminars and educational lectures, events and company site visits,” Geiger said. “We’ll support our fellows through project completion, providing the space and resources to do device testing and evaluation. The healthcare industry is undergoing dramatic upheaval due to skyrocketing costs, to name just one of many challenges. So, money will always be part

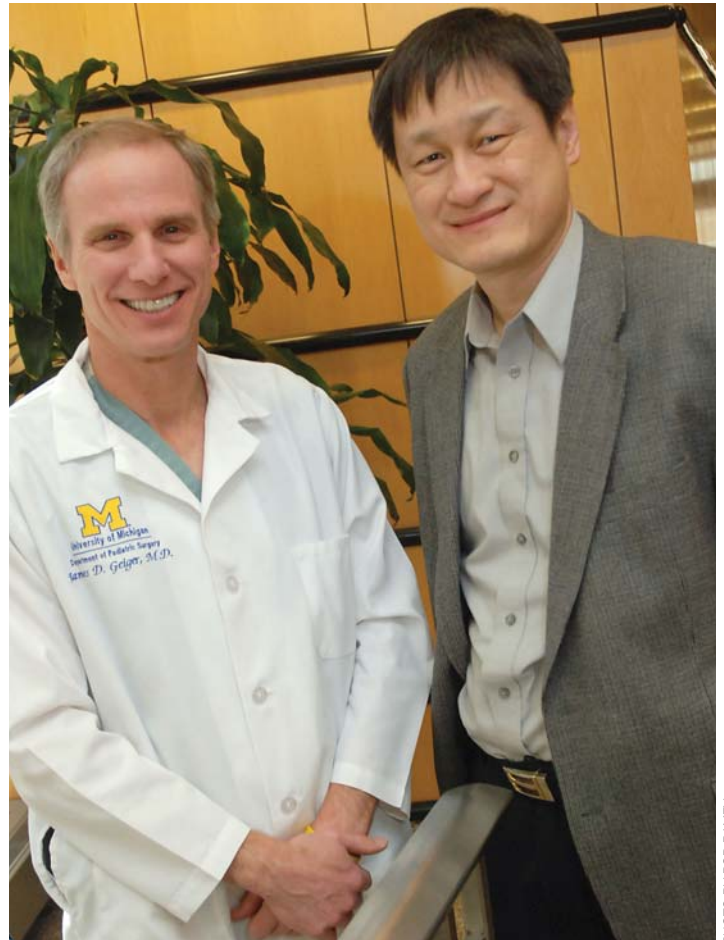


PHOTO BY BOB RAMEY

Geiger and Shih are good examples of diverse talents coming together at the Medical Innovation Center to develop entrepreneurial ideas.

of our innovation equation – things have to be cost-effective. One response to that issue is the development of simple low-tech solutions, which cost less and are more accessible from a budgetary standpoint – they’ll give patients in emerging countries greater access to modern medicine.”

The Medical Innovation Center will also partner with entrepreneurial companies that, for whatever reason, need a helping hand. For example, the center might be able to provide the expertise for an automotive-related company to transition into the healthcare arena.

“The Center’s doing ‘opportunity exploration,’ looking at clinical settings and areas that are crying out for biomedical developments,” Geiger said. “Bottom line: We want to accelerate the transformation of promising medical technologies into commercially viable products that’ll benefit people throughout the State of Michigan and the world. We can make it happen at the Center. It’s an exciting time and an exciting place because we’re in a position to really help people.”