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Look for the next 'killer app' from partner with RIT, UR

Throughout most of the 20th century, Rochester's economic success relied on the leadership of Eastman Kodak Co., Xerox Corp. and Bausch & Lomb Inc. They created the "killer apps" that made Rochester a recognized world leader in optics and imaging as photography, xerography and lens manufacture drove innovation in the area.

Today, both Rochester Institute of Technology and the University of Rochester continue to support this innovation. RIT has the Center for Imaging Science and a strong presence in information technologies that support the creation of digital images. UR has the Institute of Optics with a Center for Optical Design and Engineering. There is even a new field of research in nano-optics.

As recently as 2006, Harvard Business School's Institute for Strategy and Competitiveness observed that the number of patents produced in the Rochester area was more than three times the national average, with many of these patents for advances in the optics and imaging industry. Certainly local innovation in these fields is likely to continue.

However, twin megatrends in the United States—growing environmental concern and a graying population—suggest an emphasis on innovations for a more sustainable economy and in the medical device and biomedical fields. Rochester's education and medical communities are responding to these megatrends:

■ Rochester General Hospital is one of



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the top heart hospitals in the country. It recently partnered with a local company, Biophan Technologies Inc., to test a new type of heart pump the company created. The device is attached to the heart and when prompted restores normal blood flow. This innovation does not require a skilled cardiac surgeon; it can be installed by a general surgeon, which is especially important in an emergency.

■ RIT professor Robert Stevens is working with a team of students to develop a low-cost LED lamp for use in developing countries. The lamp could be powered by solar energy, hand cranking or a combination of both. It will be considerably safer than kerosene-fueled lights now in use.

■ RIT's Sustainability Institute has been working with Xerox to figure out ways to refurbish and reuse components in its copiers. For example, the roller that cleans the laser-printed documents of black spots costs about \$2 to produce. When it gets dirty, it has to be discarded. The Sustainability Institute devised a process to refurbish rollers

for 2 cents apiece.

■ New drugs can have a negative effect on the functioning of the heart. iCardiac Technologies Inc. worked with doctors at UR to create an automated tool to measure heartbeats and determine if the heart continues to function normally. The approach allows tests to be conducted much more quickly than manual approaches yet provides the same level of accuracy as tests performed by board-certified cardiologists.

■ SiMPore Inc. is a company spun off from UR. It has developed a filter based on silicon with pores so small that they can screen out viruses and certain proteins. The filter can be used for protein separation in dialysis and for growing neurological stem cells.

Economists studying the economic growth of regions have determined that clusters of related industries are a primary requisite of growth. For a cluster to develop, a killer app has to emerge. Two centuries ago Rochester exploited the power of the Genesee River to create the killer app of the time: flour mills. In the past century, the Big Three created the killer apps that made Rochester the world leader in optics and imaging.

Today's killer app may come from one of the many companies mentioned in these columns. But whoever develops that application almost certainly will do so in partnership with UR or RIT.

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