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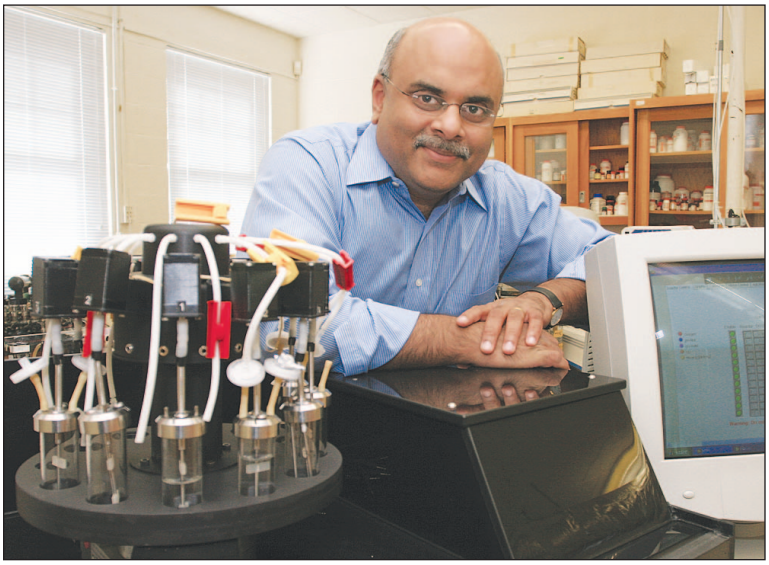
UMBC prof signs licensing deal with German company



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Govind Rao heads UMBC's biochemical engineering department.

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Govind Rao, head of the chemical and biochemical engineering department at the University of Maryland, Baltimore County, has gotten a firsthand look at how difficult it can be to translate scientific research into marketable products.

But now Rao, 44, is close to seeing his own research hit the market. A German laboratory equipment company, Sartorius AG, in early January announced a deal to license a technology developed by Rao that could be used by pharmaceutical companies, biotechnology firms and research labs.

The company plans to have a product on the market using Rao's technology in the first half of this year.

UMBC officials are excited about the possibility of receiving substantial licensing revenues from Sartorius, though they declined to describe the terms of the deal.

Biotechnology companies and research labs use a piece of equipment called a bioreactor in which cells are grown in specific conditions. Sensors are needed to make sure the mixtures are growing in the right environment.

Rao's technology, which he first described in a 1994 paper, uses disposable postage-stamp size sensors to perform measurements that are normally made by inserting a physical probe into the mixture.

By measuring how light shining through a substance affects a special chemically treated patch, Rao's sensors can measure levels of dissolved oxygen, acidity and carbon dioxide without touching the cells.

Rao co-founded a company, Fluorometrix Corp., to make use of the technology in biotechnology manufacturing systems. But the company ran into financial problems, he said, and biotechnology companies were cautious about adopting a new technology sold by a startup firm.

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>
> **GOVIND RAO**
> UNIVERSITY OF MARYLAND, BALTIMORE COUNTY

"It takes an awful lot of money to market the darn thing, and we didn't have any," Rao said.

Fluorometrix's Massachusetts-based CEO, Joe Qualitz, said the company's finances had gotten so rough that he did not take a salary for the past year.

"We've always been sort of capital-starved," he said.

While the company sold under 200 systems, mainly to research labs, Qualitz said, the company was not able to break into the biotechnology market.

"There's a lot of inertia in biotech," Qualitz said. "People don't want to try new things in general."

Rao was issued a patent for the technology in 2004.

"We were careful to have rock-solid intellectual property behind it, so people couldn't just copy it," Rao said.

Florometrix has listed its systems for sale at $50,000 to $125,000 a piece. They are designed to perform 12 reactions at once — a key advantage over older technology, according to Rao's mentor, Daniel Wang, a chemical engineering professor at the Massachusetts Institute of Technology.

"It's a pretty neat technology," Wang said.

Qualitz and Rao spent 3 1/2 years in on-and-off negotiations with Sartorius, a publicly traded company and a major manufacturer of lab equipment based in Goettingen, Germany.

But now that the deal has been signed, they are confident that their technology will make its way into widespread use.

Reinhard Vogt, Sartorius' senior vice president for sales and marketing for biotechnology products, called the technology "a piece of a big puzzle which is essential for the biopharmaceutical industry."

Biotech companies, he said, are moving toward lower-cost disposable components for manufacturing, he said. Disposable components are desirable, he said, because they don't take time to clean, and don't run the risk of contamination.

Vogt believes the market for such disposable equipment could be as large as $1 billion. He declined to disclose the financial terms of the deal with Fluorometrix.

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