Sensing in a flash

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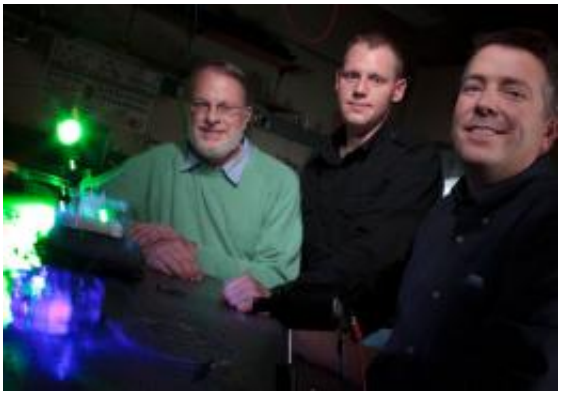

L-R: Peter Geissinger, associate professor of chemistry, researcher Paul Henning and Tom Dougherty, president of ACS.

Combine the fiberoptic, water-monitoring technology developed by chemist Peter Geissinger with a local business that helps industries treat their wastewater, and you have a sought-after solution that delivers at the speed of light.

This patented work is the latest UWM research to be licensed by a company through the UWM Research Foundation.

Milwaukee-based Advanced Chemical Systems Inc. (ACS) sells wastewater pretreatment systems and chemicals to industrial users, and also provides contaminant removal services. The company's challenge is to obtain real-time, reliable information about the level of particular contaminants in wastewater.

Currently, accurate water analysis has to be completed in an off-site lab. The testing can take weeks. Geissinger developed a water-quality monitoring system that immediately detects targeted contaminants using sensor information transported through light.

“If this system can be developed economically, everyone’s going to want this for their pretreatment systems,” says ACS President Tom Dougherty. “It could be a game-changer.”

The partners are determined to find out. Dougherty applied for a Small Business Innovation Research (SBIR) grant with three different federal agencies.

All three SBIR proposals were well received, with the winning award backed by the National Science Foundation. “The SBIR grant is a very strong external validation of the work,” Dougherty says.

“Partnering with an established company has been very beneficial because it provided clear focus on specific sensing applications needed by potential customers,” says Geissinger.

He and his postdoctoral researcher, Paul Henning, have brought the system this far with funding from the UWM Research Foundation’s Bradley Catalyst Grant program.

Going forward, the team hopes to make the equipment more cost-effective and portable so it can be used in the field. Dougherty estimates it will be ready for business use in two to three years.

Provided by University of Wisconsin-Milwaukee

https://phys.org/news/2012-01-sensing-in-a-flash.html