After three prototypes and multiple tweaks to his robotic fish, Xiaobo Tan is planning to deploy the water-monitoring device this August.

“Things have been going slower then what we expected, but we are making good progress overall,” said Tan, associate professor in the Department of Electrical and Computer Engineering at Michigan State University.

Great Lakes Echo covered the early development stages of Tan’s robofish in 2009. His latest prototype can submerge, something the initial robofish couldn’t do.

It is almost capable of transferring sensor signals in real time, another new development. The robofish submerges to sense water quality, but must surface to transmit signals to the base station or to other robofish.

“So usually there is a 10 to 20 minute lagging time.” Tan said.
Xiaobo Tan, associate professor in the Department of Electrical and Computer Engineering at Michigan State University, with his robofish prototype.

A big hurdle is keeping the prototype affordable. Tan hopes to fit each fish with sensors that monitor harmful algae blooms, oxygen levels, water temperature and pollutants. But the large size and high price of each sensor has made progress difficult.

“Current sensor manufacturers are not paying attention to this type of development,” Tan said. “Investments need to be made so that we have much smaller sensors that can be managed in fish in a cheaper way.”

The sensors cost approximately $2,000 each. The fish itself costs around $2,500 without the sensors. Adding one almost doubles the overall cost.

Meanwhile, the competition is heating up.

“There are efforts all over the world trying to utilize some sort of fish like robot to monitor the environment.” Tan said.

Scientists at the University of Essex recently deployed a robotic fish in Spain that does everything Tan’s fish does and then some.

Finding small sensors was not an issue for their 5-ft.-long prototype, which costs $30,000 per fish.

One thing can be said for sure, in a contest of which robofish looks most like a real fish, Tan’s design would easily win.
Water-monitoring robofish almost ready to patrol Great Lakes | Great Lakes Echo

© 2012, Great Lakes Echo, Michigan State University Knight Center for Environmental Journalism. Republish under these guidelines.

One Comment »

Tom M. said:

Looks like a high dollar Muskie lure to me. Better put your name and address on it.

Well-loved. Like or Dislike: ☺ 4 ☑ 0

# 29 May 2012 at 7:08 am

Leave your response!

Add your comment below, or trackback from your own site. You can also subscribe to these comments via RSS.

Be nice. Keep it clean. Stay on topic. No spam.

First Name

You can use these tags:

This is a Gravatar-enabled weblog. To get your own globally-recognized-avatar, please register at Gravatar.

Submit Comment

Special Reports

The Heat is On

Whadayaknow?
Water-monitoring robofish almost ready to patrol Great Lakes | Great Lakes Echo

Other Resources

- Commercial Shipping News
- EPA's GLNPO
- Great Lakes Information Network
- Great Lakes Law blog
- Great Lakes satellite images

Most Commented

- Michigan takes aim at mute swans; 13,500 to be eliminated
- Poisoning Michigan: Author revisits PBB crisis 30 years later
- Wolf count raises questions about Michigan range, threats
- Michigan restaurant owners fume over smoking ban
- What is the best beer brewed with Great Lakes water?

Who We Are

Great Lakes Echo is a project of the Knight Center for Environmental Journalism at Michigan State University.

Additional content provided by MSU's Capital News Service.
Technical assistance by MSU’s Department of Telecommunications, Information Studies and Media with support from the Michigan Agricultural Experiment Station.

Powered by WordPress and news.jrn.msu.edu | Arthemia theme by Michael Hutagalung