U.S. Senator Carl Levin Visits MSU Researchers Involved with Great Lakes Restoration Initiative

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During a visit to campus today, U.S. Senator Carl Levin met with key Michigan State University researchers who are working on several Environmental Protection Agency (EPA) grants supporting the Great Lakes Restoration Initiative (GLRI).

At MSU’s Engineering Research Complex, Sen. Levin observed the low-cost, smartphone-based devices developed by a team of students led by Syed Hashsham, professor of civil and environmental engineering. These DNA biochips support point-of-care genetic analysis systems for water, food, agriculture, and human health.

The centerpiece of this tool is an environmental DNA (e-DNA) chip that is capable of detecting the DNA of invasive species found in the aquatic environment at extremely low abundance. The team will also develop smartphone-based software named Invasive Species Appearance Warning system (or iSAW) for reporting and interaction. Maggie Kronlein, doctoral student; Robert Stedtfeld, post-doctoral associate in civil and environmental engineering; and Aaron Thompson, computer science undergraduate researcher, will integrate their expertise to develop the above system.

Hashsham is collaborating with Jan Stevenson, a professor in the Department of Zoology; Jo Latimore, lake and stream outreach specialist; and Erin Dreelin, associate director of the Center for Water Sciences, to create an analysis tool to monitor the lakes for invasive species such as hydrilla, golden mussel, northern snakehead, killer shrimp, and Ponto-Caspian water fleas. The team is also collaborating with Sarah LeSage, coordinator of the Aquatic Invasive Species Program, Michigan Department of Environmental Quality, to accomplish the project goals.

In early 2010, a task force of 11 federal agencies developed an action plan to implement the GLRI, the largest investment in the Great Lakes in two decades. This action plan covers fiscal years 2010 through 2014. In 2012, MSU received funding for four projects from EPA under the GLRI, including Hashsham's work.

Read more about two of the projects

View the GLRI action plan

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