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49 - Development of a gold nanoparticle sensor to detect environmental DNA of invasive fish species in the Great Lakes

Tuesday 4 June 2019 17:13 (2 minutes)

The goal of my project is to develop a nano-optical sensor platform that can detect invasive fish species in the Great Lakes at the streamside. This is a collaboration between Dr. Rangan (Physics), Dr. Heath (GLIER), Dr. Pitcher (GLIER), and Dr. Mittler (Western University). I am doing preliminary experiments and simulations that can establish proof of principle so that the collaboration can seek external grant funding. I have worked on perfecting the method for creating gold nano-particle islands on glass slides using electroless deposition. With these slide sensor platforms, we will bioconjugate a recognition site (complementary eDNA) onto the nano-particles, perform a recognition reaction, and detect it using UV-Vis absorption spectroscopy. I will present the preliminary results of this interdisciplinary project.

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