OAKLAND UNIVERSITY™

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OU scientists receive $2 million grant

Oakland scientists Xiangqun Zeng and Gabrielle Stryker have received a $2 million research grant from the National Institutes of Health to develop a novel biosensor.

The device potentially may be able to instantaneously detect as little as a single particle or molecule of a biological or chemical hazard, such as anthrax, smallpox, or neurotoxins. Potential uses include military, environmental, clinical and forensic applications.

Zeng, a chemist, and Stryker, a biologist, are assistant professors at OU. Full funding by the NIH is contingent on reaching first year milestones establishing the validity of the concept jointly developed by Zeng and Stryker.

Zeng is an analytical chemist. She is one of the leading researchers in the field of Quartz Crystal Microbalance technology, which can measure changes in weight at the nanogram level. Stryker, an immunologist, is developing recombinant antibodies, which will bind with specific biological and chemical agents.

The biosensor proposed by Zeng and Stryker will place a field of recombinant antibodies on a quartz crystal microbalance and measure mass changes as antibodies bind with different biological and chemical agents. Changes in mass, which will occur upon binding of a specific agent with the recombinant antibody, will be detected almost instantaneously by the microbalance. A signal will alert the monitoring technician to the presence and identity of the hazard.

SUMMARY
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