Unique LANL pathogen detector gains corporate partner

December 14, 2009

Optical biosensor uses tiny laser to detect range of pathogens

Los Alamos, New Mexico, December 14, 2009-Los Alamos National Laboratory has executed an agreement with Biomagnetics Diagnostics Corporation (BMGP) for the further development of a diagnostic tool known as an optical biosensor. Los Alamos, whose staff developed the prototype bench-top and hand-held biosensors for the detection of human and animal pathogens, has provided Biomagnetics with a nonexclusive, field-of-use patent license agreement to expand the Laboratory's Triggered Optical Biosensor and Integrated Optical Biosensor System (IOBS) technology.The Los Alamos triggered optical biosensor is based on protein-receptor binding that brings two or more optically tagged receptors into close proximity using planar optical waveguides, thereby triggering fluorescence changes identified almost

instantly by tiny on-board detectors. These devices are specifically designed to be battery operated and ultraportable, allowing for the rapid detection of various viral and bacterial pathogens by relatively untrained personnel outside of the laboratory setting.Los Alamos originally developed the concept of a reagent-less, laser-based system for homeland security purposes, aiming to allow first responders to rapidly identify toxins and pathogens in the field. Broader applications, such as disease diagnostics, blood bank screening and hospital use, offer commercial partners an interesting opportunity, said LANL Technology Transfer representative David Hadley."We are excited to have Biomagnetics as a commercialization partner for Los Alamos National Security, LLC's IOBS technology. Executing the license agreement is the first phase of our relationship and we look forward to expanding it with a formal collaboration to further develop the IOBS technology," Hadley said.Part of the licensed technology, originally developed at Los Alamos National Laboratory, is for the "Quantitative Multiplex Detection of Pathogen Biomarkers" and is protected through a U.S. patent application filed in October 2009. When utilized with the Integrated Optical Biosensor System (IOBS) also included in the license, the technology is capable of detecting multiple pathogens from a single blood sample.