



## **OPTRA Inc. Awarded Phase I U.S. Dept of Energy STTR Contract for H-PDLC Tunable Filter for Hyperspectral Imaging**

Topsfield, MA (September 22, 2008) - OPTRA Inc. was awarded a \$100,000 Small Business Technology Transfer (STTR) Phase I research grant by the Department of Energy to develop a tunable filter based on holographically formed-polymer dispersed liquid crystal (H-PDLC) materials. This project is a cooperative effort with the Drexel University, Philadelphia, PA who will perform advanced H-PDLC research and development to support OPTRA's instrument development.

The federal government funded this project to further the science of detecting weapons of mass destruction. Hyperspectral imaging (HSI) provides the means for detecting the proliferation of these nuclear, chemical, and biological weapons. Multiple instruments can be used simultaneously to monitor a given location and acquire spectral content that uniquely provides information on materials. This information can be used by government and military security officials to initiate the appropriate response. There is a need for faster tunable wavelength filters than those that currently exist in practice.

H-PDLC devices consist of a polymer and micron sized LC droplets composite, resulting in improved electro-optical properties compared to traditional LC materials. Advantages include faster switching times, wide wavelength operating range across the ultraviolet to infrared, narrow wavelength resolution, and high transmission. The Phase I effort will design and develop an H-PDLC tunable filter operating in the visible wavelength regime. The prototype filter will be tested and key performance parameters will be measured.

OPTRA is a supplier of ultra precision measurement solutions using state-of-the-art electro-optical technology. OPTRA markets the NanoGrid®, NanoScale®, and NanoGage® nanometer resolution grid and linear encoder products to the semiconductor, disk drive, and general research industries. OPTRA is the sole supplier of spectrometer modules to the JSLSCAD program, a field rated chemical agent detection system. OPTRA has a history of winning leading-edge technical development contracts for both commercial and government related research. OPTRA manufactures products and also licenses certain technologies that have originated from its development work.

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