



LIGHTWAVELOGIC™

For Immediate Release

Lightwave Logic, Inc. Announces Preliminary Test Results.

NEWARK, Delaware, May 20, 2009/ PRNewswire-FirstCall/-Lightwave Logic, Inc. (OTC Bulletin Board: LWLG- News; <http://lightwavelogic.com>), a technology company focused on the development of electro-optic polymer materials for applications in high speed fiber-optic telecommunications and optical computing, announced today an update on its preliminary performance evaluation of its Perkinamine class materials. Lightwave Logic is currently in the process of extensive internal and independent testing for material performance and characterization for specific application programs.

Our most recent preliminary performance evaluations, which include among other tests, the r33 Teng-Man testing protocol, support our previous test results and appear promising. We recently strengthened our internal testing protocols to create a more comprehensive testing program. In addition we are working with three separate universities in connection with both material characterization and performance of our Perkinamine class materials for specific applications. We believe that if our preliminary evaluations are further confirmed in independent testing, we will have created the first electro-optic polymer material platform to exhibit the ability to support a broad range of applications.

In conjunction with our testing, the Company is simultaneously working to develop strategic partnerships and material development contracts to meet unique customer application needs. We have developed, and we are continuing to develop, electro-optic polymers within our patent pending molecular architectures which we believe have a broad range of applications in Military, Aerospace, fiber-optic telecommunications and optical computing market segments. Jim Marcelli, the Company's CEO, noted that "independent market research reports project that the organic electro-optical materials market will cross \$10.5 billion by 2011, and that the market segment for telecommunication non-linear electro-optic materials alone is projected to reach \$1 billion by 2015."

About Light wave Logic, Inc.

Lightwave Logic, Inc. is a development stage company, moving toward prototype demonstration and commercialization of its high-activity, high-stability organic polymers for applications in electro-optical device markets. Electro-optical devices convert data from electric signals into optical signals for use in high-speed fiber-optic telecommunications systems and optical computers. Please visit the Company's website, www.lightwavelogic.com, for more information.

Safe Harbor Statement

The information posted in this release may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. You can identify these statements by use of the words “may,” “will,” “should,” “plans,” “explores,” “expects,” “anticipates,” “continue,” “estimate,” “project,” “intend,” and similar expressions. Forward-looking statements involve risks and uncertainties that could cause actual results to differ materially from those projected or anticipated. These risks and uncertainties include, but are not limited to, general economic and business conditions, effects of continued geopolitical unrest and regional conflicts, competition, changes in technology and methods of marketing, delays in completing various engineering and manufacturing programs, changes in customer order patterns, changes in product mix, continued success in technological advances and delivering technological innovations, shortages in components, production delays due to performance quality issues with outsourced components, and various other factors beyond the Company’s control.

For more information contact:

Jim Marcelli, CEO

302-356-2717

jmarcelli@lightwavelogic.com