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For Immediate Release

Banpil Photonics, Inc. Issued High-Sensitivity Nanosensor Patent for Biomolecule and Chemical Agent Detection

SANTA CLARA, California – February 17, 2014 - Banpil Photonics, Inc., a leading company expanding the boundaries of optics and electronics through innovations, today announced that the US Patent Office has issued it with a patent for a high-sensitivity nanosensor device capable of detecting biomolecule and chemical agents at the parts per million (PPM) level thereby opening up important applications in medical, forensics, and defense and security industries.

The Banpil nanosensor innovation will enable simplicity and portability with enhanced capabilities over conventional biomedical and industrial sensing systems today. When the nanosensor is used in a clinical diagnostics application or to detect a chemical agent or gas in an environment, biocells or industrial gas fills air or receptor spaces. An assay or receptor is used to absorb/interact with the respective cell or molecule present in the spaces. Absorption results in changes in the refractive index, which changes the optical intensity of the core, which enables the sensor to detect the concentration of biological cell or industrial gas depending on the changes in the effective refractive index of the core. The concentration of the specimen can also be determined as a function of changes in effective refractive index. The type of the biocell can be determined by using a fixed assay and the industrial gas can be identified using a fixed receptor. The nanosensor has been validated by Banpil and a prototype device is in development.

With miniaturization, the nanosensor can be integrated into a microsystem that it is light and portable making it ideal for use in the field in next generation biomedical applications. The same properties make the Banpil nanosensor also suitable for identifying the type and detecting concentrations of industrial gases quickly, especially in potential hazardous environments that cannot afford the time and convenience of a lab. "The Banpil nanosensor is a novel device that is highly sensitive and capable of detecting biological cell or industrial gas concentration in extremely small amounts (ppb levels)," noted Dr. Achyut Dutta, Banpil's CEO. The potential applications of the nanosensor are clinical diagnostics, spectroscopy, and detection of contaminants in the environment, food and agricultural products. While immediate biomedical applications are in vitro, Banpil envisions the nanosensor being used in the future to conduct in vivo noninvasive diagnosis, for example in the early detection of cancer cells. Banpil is in the process of commercializing the technology for biomedical applications and invited interested parties to collaborate in novel application systems.

About Banpil Photonics, Inc.
Banpil Photonics is expanding the boundaries of optics and electronics through innovations. Banpil develops and manufactures next generation multispectral image sensors for automotive & medical imaging systems, security & surveillance, and machine vision applications; high-efficiency energy harvesting devices for energy applications; and low-power, high-speed electrical interconnects for chip-to-chip, chip-to-board, board-to-board, and rack-to-rack applications in high performance computing and networking. The company has an extensive IP portfolio of these innovations available for licensing. For more information, visit www.banpil.com.

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