

mPhase Technologies Discusses Magnetometer, Nanobattery Development

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mPhase Technologies is building momentum for its product development by spreading the word about real-life homeland security and defense applications of its technology. mPhase is among more than 30 technology firms participating in the New Jersey Technology Council's Mid Atlantic Defense/Homeland Security Showcase being held today from 3 to 8 p.m. at Sarnoff Corporation, 201 Washington Road, Princeton, New Jersey.

mPhase has a multi-pronged effort under way with Bell Labs, the research and development unit of Lucent Technologies, and Rutgers University to commercialize a battery that is built on a microscopic nanostructured architecture. mPhase has proven it is possible to fabricate nanotech-based "smart" batteries, which can store reserve power for decades and generate electric current virtually on demand. The prototype battery is based on a Bell Labs discovery that liquid droplets of electrolyte will stay in a dormant state atop microscopic structures called "nanograss" until stimulated to flow, thereby triggering a reaction producing electricity. This super-hydrophobic effect of liquids can permit precise control and activation of the batteries when required.

An immediate defense and security application for the nanobattery is as an energy source to power remote sensors in areas lacking electricity. mPhase, working with Bell Labs, has produced the first core components of a sensor package, technically referred to as a magnetometer that is predicted to be up to 1,000 times more sensitive than commercially-available uncooled sensors used in metal detectors. Acting much like a

miniature tuning fork or oscillator, with movements only perceptible under a microscope, it is designed to detect changes in magnetic fields and can be used in applications to establish direction of movement of magnetic objects - ideal for defense and perimeter security.

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