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## UCLA's California NanoSystems Institute welcomes new startup to incubator space

Aneeve to develop sensors to monitor hormone levels for menopause, fertility

By [Jennifer Marcus](#) | January 07, 2010

Aneeve Nanotechnologies LLC has been selected to work in the UCLA on-campus Technology Incubator Program at the California NanoSystems Institute. The startup company will conduct early-stage research for the development of a novel hormone sensor/meter for biomedical applications in the areas of infertility and menopause.

[Aneeve](#) has licensed related carbon nanotube technology from UCLA developed by Kang Wang, a UCLA professor of electrical engineering. The technology increases hormonal detection sensitivity significantly, allowing detection beyond traditional sensors. The company is using this technology to develop biomedical applications that are low in power consumption and small in size and that involve ultra-sensitive nanoelectronic technologies.

Aneeve's primary research focus within the incubator will be to develop a consumer-based, simple-to-use meter for sensing estrogen and progesterone hormone levels to assist women in mitigating unwanted symptoms of menopause. The meter will provide on-demand hormonal levels so patients can better control drug intake related to hormone therapy. The system is intended to be low cost, compact and easy to use. Currently, there is no such meter commercially available.

The sensor and transducer technology will measure hormone concentrations using specially made hormone tabs — similar to the glucose tabs used by diabetics — made by low-cost and precise ink-jet printing of carbon nanotubes. Additionally, the device will allow couples to monitor hormone patterns to help increase chances of fertility, especially among those seeking infertility treatments.

Aneeve's scientific advisory committee includes Kang Wang, who holds the Raytheon Chair in Physical Science at UCLA and is a University of California Distinguished Professor in Electrical Engineering; Wang is a pioneering scientist and technologist who brings vast experience in charge-based nanodevices. The committee also includes University of Southern California professor Chongwu Zhou, who holds joint appointments within the USC College departments of physics and chemistry and has extensive experience in carbon nanotube fabrication, devices and carbon nanotube-on-insulator technology.

"After speaking with medical experts at UCLA and USC, our research collaborators recognized a real need for a simple non-invasive device," said Wang, upon whose technology the license is based. "Such consumer-based meters for on-demand sensing of estrogen and progesterone concentrations are not currently available."

As a startup in the UCLA incubator, Aneeve will benefit from close access to the core facilities within CNSI. In developing the hormone sensor, the company plans to make extensive use of such labs as the Center for Quantum Research, the Nano and Pico Characterization lab, the Electron Imaging Center for Nanomachines, the Integrated Nanomaterials Lab and the Integrated Systems Nanofabrication Cleanroom.

"Aneeve's proof-of-concept work will be greatly aided by access to cutting-edge lab equipment and technical expertise at the incubator," Zhou said. "This will propel the research and development efforts significantly and help Aneeve to get to market that much faster."

Aneeve is currently funded via the Defense Advanced Research Projects Agency (DARPA) with Small Business Innovation Research awards totaling more than \$900,000.

**The California NanoSystems Institute at UCLA** is an integrated research center operating jointly at UCLA and UC Santa Barbara whose mission is to foster interdisciplinary collaborations for discoveries in nanosystems and nanotechnology; train the next generation of scientists, educators and technology leaders; and facilitate partnerships with industry, fueling economic development and the social well-being of California, the United States and the world. The CNSI was established in 2000 with \$100 million from the state of California and an additional \$250 million in federal research grants and industry funding. At the institute, scientists in the areas of biology, chemistry, biochemistry, physics, mathematics, computational science and engineering are measuring, modifying and manipulating the building blocks of our world — atoms and molecules. These scientists benefit from an integrated laboratory culture enabling them to conduct dynamic research at the nanoscale, leading to significant breakthroughs in the areas of health, energy, the environment and information technology.

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