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## Cultivatingbigideas, October 2011

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## UA Nano Facility Dedicated, Speaker Tours ARTP

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Sixteen years after UA faculty and students began researching nanotechnology, the UA now has its own world class facility which was dedicated in mid-September.

With about 200 guests attending, including Gov. Mike Beebe, UA Chancellor G. David Gearhart said that the 76,000 square-foot, three-story Nanoscale Material Science and Engineering Building will make the UA a national leader in producing nanoscale material.

“This state-of-the-art facility and the interdisciplinary approaches taking place in the classrooms and labs strengthen the University of Arkansas’ position as a leader in nanoscale science and engineering,” Gearhart said.

Nanotechnology researchers at the UA include 25 tenure-track faculty members in fields of physics, engineering, chemistry and biology. The new building on Dickson Street puts much of that interdisciplinary research under one roof. Researchers housed in the new building study many

aspects of nanotechnology, including creating biosensing devices; developing nanoparticle-based disease diagnostics and therapies; using nanoscale scaffolding for stem-cell growth, drug release, neuron regeneration, bone implants and stents; examining the impact of defects on properties of nanoscale materials; enhancing properties of nanoscale materials; and creating high-quality novel nanoscale materials.

After the ceremony, key-note speaker Scott Livingston of Livingston Securities LLC, toured the ARTP campus with Phil Stafford, ARTP president. As they toured the Park, Stafford discussed some of the nano research that began at the UA that has moved on to commercialization at the ARTP campus.

Livingston said that he was impressed with the system of innovation supporting commercialization of technologies at the ARTP, and sees the need to continue to invest in new technologies to push the ideas forward to the marketplace.

### Welcome New Hires/Transfers

#### Axiom

Joshua King  
Brad Markel  
Casey Milford  
Tram Nobles

#### APEI

Casey Mileham  
Bret Whitaker

#### BiologicsMD

Paul Mlakar  
Lindsay Rutherford

#### Nutraceutical Innovations

Satchithanandam “Eswaran”  
Eswaranandam

#### SFC Fluidics

Anu Agarrwal  
Brad Ledden  
Chuanmin Ruan

#### VIC

Kathy Hall

Members of the  
NWA Council and Walton  
College of Business  
discuss the first State of  
the NWA Region report at  
a press conference held  
at the Innovation Center in  
late September.  
See related story, page 2.



### BlueInGreen Brings Water Treatment System to ARTP Pond

At a press conference in mid October, ARTP introduced a new water quality management system for its campus retention pond that will keep the pond oxygenated, prevent odors, and assist in nutrient management and algae control in an environmentally friendly way. The new technology is the work of Park affiliate, BlueInGreen, and was made possible by a grant from a Fortune 500 company that helps fund clean water initiatives related to storm water runoff, in settings such as the ARTP campus.

BlueInGreen developed, built, installed, and operates a Supersaturated Dissolved Oxygen (SDOX<sup>®</sup>) system for the project. BlueInGreen, a VIC portfolio company, was established to provide innovative new products for improving and maintaining water quality.

“This project created a win-win allowing us to utilize BlueInGreen, a business on the campus, to showcase how its new patented SDOX<sup>®</sup> technology can provide our campus an optimum solution for maintaining our retention pond,” said Phil Stafford, president of the UA Technology Development Foundation, which manages the Park.

BlueInGreen’s SDOX<sup>®</sup> technology is designed to offer a cost-effective, small



**Scott Osborn, BlueInGreen’s chief technology officer explains how the S-DOX system treats the ARTP pond water.**

footprint solution to treat water bodies through the efficient delivery of dissolved oxygen. The SDOX<sup>®</sup> system will provide for the release of dissolved oxygen to the run-off water in the pond as well as the required microbes to rapidly break down hydrocarbons, preventing the pond

from becoming stagnant and producing odors, - problems that occur if the water is not properly aerated.

“Our larger units handle millions of gallons of water a day, so this is our first smaller scale system,” said Clete Brewer, CEO of BlueInGreen. “Our technology offers a green solution which ensures that even a shallow wet structure as this pond never produces odors and never requires chemical treatments that could potentially harm the environment or wildlife. We have the benefit of the unit being located just outside our headquarters on the Park campus, and our engineering team plan to use the already successful system as a prototype for shopping centers and similarly sized neighborhood developments,” Brewer added.

Stafford says installation of the SDOX<sup>®</sup> was completed in early August and has been running efficiently over the testing period. It will provide an educational component for its “optimal pond ecosystem,” as it will provide for advanced studies in ecology, environmental engineering and aquatic landscaping by researchers at the University of Arkansas. And, it will offer high school biology classes access to a high “dissolved oxygen” water body for comparative studies.

### College of Business Releases NWA Region Report at ARTP Press Conference

The Innovation Center was the host facility when the Sam M. Walton College of Business (WCoB) held a press conference at the ARTP in late September to unveil its region report, a benchmark study focused on the Northwest Arkansas (NWA) region’s economic growth. The study compared the NWA area to peer regions in the south, southeast of the county from January 2000 – January 2011.

Kathy Deck, director of the Center for Business and Economic Research at the WCoB and lead researcher on the report, said the report showed that Arkansas lags behind peer communities in its investment in research and development. Deck indicated that this would be an easy way to lead to future growth and jobs in the region. Investing in this “low-hanging fruit” would expand busi-

ness and employment opportunities she said.

Investing in research and education appear to be the best way to remain competitive and maintain the NWA region’s quality of life, the study summarized. Deck said although economic times are hard, the region cannot afford to stop investing.

G. David Gearhart, UA chancellor and chairman of the NWA Council, said that the report clearly shows the education and economics work together.

“It’s important that the University continue collaborating with major industry and continue fostering young, innovative startups like (ARTP affiliate companies) NanoMech and Arkansas Power Electronics International,” he said.

For more information: [cber.uark.edu](http://cber.uark.edu).

### SFC Fluidics Gets Write Up and Research Funding

In the September 5<sup>th</sup> issue of *Arkansas Business*, SFC Fluidics (SFC) received nice press coverage. The article's author, Mark Carter, reflected that last February Calvin Goforth, President of Virtual Incubation Company and SFC Fluidics, told him to be prepared for a success story.

And SFC Fluidics, a VIC portfolio company and ARTP affiliate, did not disappoint.

At the annual medical instruments' trade show last spring, SFC Fluidics commercially released its products to a receptive audience. The products introduced were the ePump micro-fluidic pump and the QuickConnect micro-fluidic connectors, both are components in point-of-care medical devices.

Averaging 40 percent of revenue growth for the past four years, SFC

already is working on its next project: developing a device that helps diagnose injuries to the brain. In 2009, SFC received a \$5 million Department of Defense contract to begin this work. In July, SFC received \$165,000 from the National Institutes of Health to continue the research.

The challenge is to develop a handheld system that can diagnose traumatic brain injuries in the field from a pinprick of blood. According to Goforth, the device will be used to continuously monitor changes in the concentration of brain injury biomarkers in the fluid surrounding the brain.

The long-term monitoring will allow physicians to quickly take action when brain chemistry changes are detected. This should improve treatment strategies, thus minimizing the long-term impact of severe brain injury.

### NanoMech Presents First Royalty Check to University

At the dedication of the new nanotechnology facility at the UA in September, Nanomech's Chairman and CEO, Jim Phillips, presented a check to the UA on royalties for intellectual property owned by the UA and successfully commercialized by NanoMech.

Upon receipt of the check, Chancellor G. David Gearhart stated, "NanoMech is a vibrant example of what happens when research is nurtured and supported. The commercialization efforts taking place within the Arkansas Research and Technology Park continue to play an important role in producing success stories like this one."

Jim Rankin, vice provost for research and economic development at the UA said, "The University will continue the commercialization life-cycle by using the financial return to patent and license additional research. NanoMech demonstrates how university research can be commercialized to provide high-paying jobs in Arkansas as well as bring new technology to the marketplace."



Guests and staff visit at The Sustainability Consortium's open house in July at ARTP. TSC also opened an office at Wageningen University in the Netherlands in August.



## At a Glance

### NanoWatt Design receives ASTA Funding

In September, the Arkansas Science & Technology Authority awarded a \$70,000 grant to NanoWatt Design, LLC, a VIC portfolio company and new affiliate in ARTP. The funding is to continue the development of its microchip architecture which reduces power consumption - one of the top three concerns in the semi-conductor industry. The technology, which also has applications to extend battery life, will work in a wide range of devices, from cell phones to pacemakers.

### BiologicsMD Honored by Chamber

In late September, the Fayetteville Chamber of Commerce held an Excellence in Business Awards Breakfast that recognized local businesses and chamber members who represent excellence through best business practices. The Chamber selected businesses for customer and community service, growth, innovations, and leadership. BiologicsMD was selected as the best startup business in the area. BiologicsMD is a VIC portfolio company and affiliate of the GENESIS Technology Incubator.

### O'Brien Named Employee of the Quarter

The Technology Licensing Office (TLO) recently celebrated the good work of one of its employees, Sarah O'Brien. O'Brien is the IP Fiscal Support Analyst for the Division of Agriculture. She was recognized on August 11<sup>th</sup> as the Employee of the 4<sup>th</sup> Quarter 2011 for her outstanding performance.

Her colleague, Susie Engle, stated, "Sarah's quality of work regularly exceeds expectations, and she never hesitates to tackle new challenges. Her energy and enthusiasm are rare and genuinely appreciated."

### Sister VIC in Boston

Earlier this month, Virtual Incubation Company (VIC) announced that a new sister company, Atlantic VIC, will be based in Boston and, like the original ARTP affiliate, will handle business development for startup companies. The startups will be built from scratch, using intellectual property from university labs in the Boston area.

Atlantic VIC expects to work with researchers at universities such as Worcester Polytechnic Institute and the University of Massachusetts system to launch the new companies. The companies will license the tech-

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nology, and Atlantic VIC will start pursuing grant funding to further the research and development, before eventually looking for private funding. Atlantic VIC will be the official founder of the company and will share equity with the partners it brings to Atlantic VIC.

### Contact Us

[www.uark.edu/ua/artp/](http://www.uark.edu/ua/artp/)



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