

# arkansas research & technology park cultivating big ideas

Quarterly Newsletter

JULY 2016

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## WOLFSPEED ENTERPRISES

the university of arkansas  
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Wolfspeed™ introduced the **first fully-qualified commercial power module** from its Fayetteville, Arkansas location and displayed it at the PCIM Europe on May 10 – 12, in Nuremburg, Germany. The newly commercialized Wolfspeed™ module design is “the industry’s most optimized to achieve the unique benefits of SiC technology – with a 66% reduction in module inductance. This reduction in module inductance enables faster switching speeds, higher frequency operation, and ultra-low energy losses.”

In other news, it was announced on July 14, 2016 that **Infineon Technologies, AG had entered into a definitive agreement to acquire the Wolfspeed Power and RF Division of Cree**. The deal also includes Cree’s silicon carbide wafer substrate business. The acquisition further strengthens Infineon’s position as a global leader in power and RF solutions and will accelerate the market introduction of silicon carbide-based semiconductors.

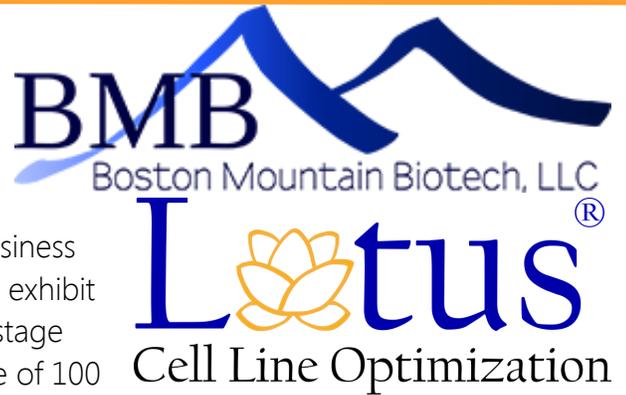
## TSC IMPACT REPORT AND PARTNERSHIP WITH KROGER

The Sustainability Consortium (TSC), an ARTP affiliate, released their 2016 Impact Report with the vision of a world able to “experience the benefits of consumer products without causing harm to people or going beyond the environmental limits of our planet.” **The Impact Report presents the sustainability measurement and reporting system developed by TSC.** In the Impact Report, TSC outlines achievable and realistic steps for retailers to implement to reach TSC’s goal to “create a consumer-goods ecosystem that is sustainable using a common approach to measuring and tracking the product sustainability of \$1 trillion of retailer sales over the next five years.”

The Kroger Co., one of the world’s largest grocery retailers, has partnered with TSC to meet their 2020 Goals focusing on what they call “responsible sourcing” by using TSC’s commodity mapping tools to evaluate the social and environmental risks of their supply chain.



## BMB AT THE BIO CONVENTION



Ellen Brune, Founder and Chief Executive Officer of Boston Mountain Biotech (BMB) attended the BIO 2016 International Convention on June 6-9. BMB was invited to participate by the Innovation Zone, an organization dedicated to group Small Business Innovation Research (SBIR)-funded companies together on the exhibit floor of the Convention. The exhibit space is devoted to early-stage companies with frontier biomedical technologies; BMB was one of 100 companies chosen to display their accomplishments. Brune commented "The conference allowed BMB to speak with several potential industrial partners that may be interested in licensing the Lotus® technology in the future and collaborating with us on our NSF Phase II application." BMB is currently preparing for scale-up studies through the NSF phase II application while expanding their engineering consulting services to include supporting companies in the food and beverage industries.

## NEW AFFILIATES AT THE ARTP: ARKTONICS AND SURFTEC

**Arktonics, LLC** recently joined the portfolio of companies housed in the GENESIS Technology Incubator at the ARTP. The company is focusing on the development of high-quality silicon (Si)-germanium (Ge)-tin (Sn) material growth technology for use in optoelectronic devices. Arktonics plans to commercialize Si-Ge-Sn based device products such as low cost infrared detectors and light emitting diodes.



**SurfTec, LLC** founded by Samuel Beckford, a graduate student, and Min Zou (both pictured right), professor of mechanical engineering, has joined the ARTP community to develop a novel low-friction, durable coating developed at the University of Arkansas. SurfTec's intent is to deploy their technology to address the challenge of poor lubrication by developing novel solid lubricant surface coatings to reduce friction, wear, fouling and corrosion in mechanical and electrical systems with an ultimate goal of extending component life and reducing maintenance cost and energy consumption. On July 1, 2016, the National Science Foundation awarded SurfTec a \$225,000 SBIR grant to continue development and investigate ways to improve the poly-tetrafluoroethylene (Teflon) coatings. Beckford and Zou's invention has a pending patent.

### Welcome New Hires

**Arktonics**  
Perry Grant  
Baohua Li

**C12XL**  
Tim Vo

**Ozark Integrated Circuits**  
Lauren Bridger (student intern)

**SurfTec**  
Samuel Beckford  
Min Zou

**Wolfspeed**  
Tracy Autry  
John Dick  
Steven Ericksen

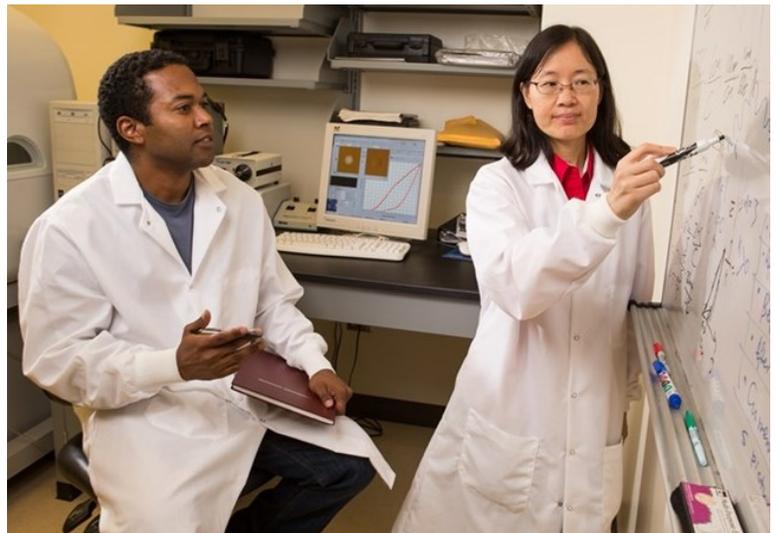


Photo courtesy of UofA University Relations

## WATTGLASS WINS SunRISE TechBridge CHALLENGE



Photo courtesy of University Relations

On June 16, 2016, WattGlass, LLC was announced as one of five winners of the SunRISE TechBridge

Challenge, a collaboration between Royal DSM, Fraunhofer TechBridge and Greentown Labs. The Challenge was designed to identify innovations in solar materials and technologies to reduce the levelized cost of energy for photovoltaic systems. Corey Thompson (pictured left), founder of WattGlass, is now on temporary assignment in Boston with his family for 6 months to explore the business opportunities winning the Challenge will provide. Thompson shared his excitement about the Launch program, "Greentown Labs is the largest clean-tech incubator in

the country and has an extensive network of partners, many of whom are potential customers or partners for WattGlass. **It's our goal to take full advantage of this opportunity to continue working on business development, customer discovery, and building corporate partnerships. Ultimately this is a great pathway to accelerate our development and take an Arkansas-based technology to the world.** After completing the program, Thompson plans to return home to the ARTP.



## AFFILIATE RETURNS TO THE ARTP: C12XL

The Arkansas Research and Technology Park (ARTP) has welcomed back an old friend with a new name. While always maintaining an office here at the ARTP to stay connected to their roots, cycleWood Solutions, a University of Arkansas' Walton College of Business' entrepreneurship program company, moved to Dallas, TX in 2014. Technology development continued at a rapid pace in Texas and cycleWood Solutions' technology was ultimately acquired, offering new challenges and new opportunities for the company. **Re-branded as C12XL, the company was in need of wet lab and office space on short notice. Nhiem Cao, co-founder and Tim Vo, PhD Chemist of C12XL decided to transition back to the ARTP and into the Enterprise Center.** "Everyone at the Research Park is very supportive and it just feels like home," Cao stated about the transition. C12XL will consult with the acquiring company and

continue to provide technical and operational support for cycleWood products, like the biodegradable grocery bags. In addition to supporting cycleWood technology, C12XL will be developing other sustainable solutions and broadening the scope of their products by focusing on widely used materials instead of specific applications. One of the materials C12XL is currently researching for innovative uses is a low cost carbon fiber made from lignin, a waste product of the papermaking process. **The mission of C12XL is to utilize renewable resources to create advanced materials through scalable processes resulting in environmentally and economically sustainable solutions.** As for the name change, C12 is the most common carbon isotope and XL due to C12XL's focus on and research of carbon elements and their uses.

**C12XL LLC**

## DID YOU KNOW?

### UNIVERSITY ALUMNI AT ARTP RECIEVE AWARDS

Chris Pixley of Pacific Vet Group and Jared Hornberger of Wolfspeed have been named 2016 Early Career Alumni Award by the College of Engineering at the University of Arkansas. This Award is presented to graduates of the College of Engineering who are achieving distinction in their fields and show significant promise for professional leadership in state, national and international activities. These individuals have served in their industries for fewer than 20 years and are both founding members of companies at the Arkansas Research and Technology Park. Hornberger received his bachelor's degree (2002), master's degree (2005) and his doctorate (2012) from the University of Arkansas. Currently Hornberger serves as director of manufacturing at Wolfspeed, a company recently acquired by Cree and now in a definitive agreement to be acquired by Infineon. Pixley received a bachelor's degree (2002) and his doctorate in engineering (2012) from the University. He now has a managing role with Pacific Vet Group which was acquired by Novozymes in 2015.

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