

Oklahoma Innovations - OCAST's Official Newsletter

May 2015

STEM EMPOWERS OK LAUNCHED BY GE FOUNDATION

The GE Foundation announced a donation of \$400,000 to launch a statewide initiative to encourage greater interest among high school students in science, technology, engineering and math. GE, OCAST and OSSM will partner to enhance STEM education across Oklahoma.

GE will sponsor a week long STEM program for up to 50 students at the Oklahoma School of Science and Mathematics (OSSM) in late July as well as launch an Open Innovation Challenge this fall. The Open Innovation Challenge, led by OCAST, will invite students in grades 6-12 to share their ideas on how to build a stronger Oklahoma. OCAST will also host regional innovation forums which bring together local industry, academia and economic development officials for in-depth discussions on building a productive innovation economy.

The GE Foundation will also support internship, mentoring and scholarship opportunities for Oklahoma students as well as a new GE STEM Fellowship program of teachers. The program will put teachers and mentors together in STEM-related occupations with participating companies across the state.

GE will be involved through its Global Research Oil and Gas Technology Center across the street from OSSM in Oklahoma City. GE and OCAST will work together to target other technology and innovation-driven Oklahoma companies to participate as well.

AMETHYST RESEARCH AWARDED SBIR FUNDING

Amethyst Research, a high-technology company that specializes in electro-optical materials processing, growth and device design will receive Small Business Innovation Research (SBIR) Phase I and Phase II funding.

The company's roots are in the creation of disruptive technology to improve materials and devices in order to achieve previously unattainable product performance, yield and quality. The company's goal is to provide cost effective products and services along with expertise and collaboration needed to create and commercialize innovative opt-electric products.

Amethyst has won a number awards since its inception including The Journal Record's Innovator of the Year and Oklahoma Venture Forum "Venture of the Year" and was selected as one of the winners of the Tibbetts Award. The company is only one of two in the state of Oklahoma to win this award named for Roland Tibbetts, who is acknowledged as the father of the Small Business Innovation Research program.

Amethyst's SBIR funding is as follows:

- USAF Phase I SBIR – Resonant Cavity Enhanced Photo-Diodes for LWIR Communications
- USAF Phase I SBIR – Hydrogenation of SLS for Defect Mitigation of III-IV based Infrared Detectors
- DOE Phase I SBIR – A Low Cost Multipoint Gas Sensor for Monitoring Subsurface Isotopologues

- DOE Phase I SBIR – Development of a New Analytical Technology in support of Oil and Natural Gas Extraction
 - NOAA Phase I SBIR – Ultra High Sensitivity SWIR Methane Imaging Camera
 - DOE Phase II SBIR – Development of Novel IR Detector for Improved CO2 Subsurface Sequestration and Monitoring.
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SCIENCE AND TECHNOLOGY MONTH WRAPS UP

Science and Technology month is celebrated during the month of April. OCAST was recognized as the state's agency for science and technology and received official proclamation from the Governor.

In honor of Science and Technology Month OCAST sent out approximately 1500 award recognitions to junior high and high school students from around the state. These awards were sent to students who completed classes in science, technology, engineering and math (STEM).

Numerous students were also recognized and highlighted on the OCAST website as being "STEM Students of Excellence." These students were nominated by their teachers for going above and beyond for their work in math or science fields.

SBIR ROAD SHOW A BIG SUCCESS

A workshop was presented by BBC Entrepreneurial Training and Consulting and was hosted by OCAST. Over 75 people from states such as Oklahoma, Texas, Kansas and Arkansas attended the event.

The Road Tour is a nationally focused outreach initiative targeting advanced technology communities, including women-owned and minority-owned firms, in states that have underutilized funding opportunities. Since the program's inception, there have been more than 150,000 awards totaling about \$40 billion to help innovators and de-risk technology investments needed to keep the country competitive.

Federal program managers presented a full day workshop on proposal preparation led by SBIR experts with the second day providing participants an opportunity to meet one-on-one with program decision makers.

OKLAHOMA HEALTH RESEARCH CONFERENCE MARKS 25th YEAR

For the first time, the Oklahoma Health Research Conference was held in conjunction with the OKBio Annual Bio Summit. The Health Research Conference provided an opportunity for health researchers to hear from representatives of the National Institutes of Health and the U.S. Department of Agriculture.

The Bio Summit is designed for the local life science and research community to learn more about partnering with big pharma, national funding opportunities, accessing federal researchers and resources and applying human bioscience to agricultural markets.

The event was concluded with a dinner honoring outstanding contributions and accomplishments of individuals, companies and organizations that further the development in the bio sciences industry in Oklahoma and around the world.

There were over 100 in attendance on this 25th year of the Health Research Conference held in Oklahoma City.

OCAST PROGRAMS CALENDAR

- Health, OARS, FY15.2 Intern awards announced: June 16, 2015
 - Oklahoma Technology Summit: August 26, 2015
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OKLAHOMA INNOVATIONS RADIO SHOW

Enjoy a fun and entertaining way to learn about severe weather from Gary England. The University of Oklahoma and meteorologist Gary England have collaborated to create a new [series entitled "Tornado Alley."](#) The series consists of short, entertaining videos that will give people of all ages a better understanding of Oklahoma's severe weather patterns and events.

[Listen to the show.](#)

[Wastewater recycling, reclamation, and reuse](#) may be options for many communities to augment their drinking water supplies, especially in areas where fresh water resources are limited. These efforts could also be a tool to help achieve the goal set out under Oklahoma's "Water Act for 2060" - to use no more fresh water in 2060 than was used in 2010 while preserving Oklahoma's population growth and economic development goals.

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The [Lynn Health Science Institute](#) is an innovative leader in the area of clinical trials and comprehensive medical research studies. The Lynn Institute has conducted more than 800 clinical trials, working with over 250 pharmaceutical companies and contract medical research organizations.

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OCAST is partnering with GE and the Oklahoma School for Science and Mathematics to expand STEM education opportunities for students across Oklahoma. The investment in [STEM Empowers OK](#) is designed to inspire, teach and recognize the next generation of scientists and engineers who lead innovation in our state and nation.

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The prospect of climate change and its consequences for the environment and communities requires political and economic action to help reduce the magnitude of change. Unmanned aerial systems allow decisions to be made based on environmental observations and monitoring at a wide range of temporal and spatial scales. Learn more at the upcoming [ISARRA](#) conference.

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Some of Oklahoma's top health researchers recently showcased their latest discoveries at the Oklahoma Health Research Conference. Projects represented will improve the lives and health of people around the world.

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[Muncie Power](#) has been serving the truck equipment market with mobile power components and systems for more than 75 years. Dump trucks, refuse trucks, aerial buckets, tow trucks and dozens of other applications function in part because of the products they produce. Their Tulsa location has design, development and manufacturing responsibility for the power take off products.

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Tulsa-based [THG Energy Solutions](#) is a comprehensive energy management solutions provider that helps commercial, industrial, and governments manage and identify cost savings through energy management best practice. THG educates, organizes, and empowers clients to achieve savings by becoming more informed

energy managers for the buildings they operate.

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