

Oklahoma Innovations - OCAST's Official Newsletter

June 2014



OCAST AWARDS \$4.1 MILLION FOR 31 HEALTH RESEARCH PROJECTS

OCAST, the Oklahoma Center for the Advancement of Science and Technology, this week awarded more than \$4.1 million for 31 health research projects ranging from development of anti-cancer drug pharmacology to muscle spindle and human motor unit function impacted by aging. OCAST is the state's technology-based economic development agency

Most projects will take up to three years to complete. Health Research is OCAST's longest running program and was the first step in the agency's mission of long-term economic diversification.

Winning applications were chosen from a field of 140.

Research funded under the program investigates the causes, diagnosis, treatment and prevention of human diseases and disabilities and facilitates the development of innovative health care products and services.

Many of the successful applicants will attract private and federal research dollars to Oklahoma. Improved health, high-wage and high-skill jobs are follow-ons to this investment.

OCAST's Health Research program is designed to: (1) strengthen the competitiveness of Oklahoma health researchers for national research funds; (2) recruit and retain outstanding health research scientists to the state; (3) improve health care for Oklahomans; and (4) strengthen the state's health care industry.

Successful applicants and their organizations follow:

University of Oklahoma (Norman)

- Zhibo Yang
- Roger Harrison
- Ulrich Hansmann
- Valentin Rybenkov
- Chuanbin Mao

Oklahoma State University (Stillwater)

OU Health Sciences Center (Oklahoma City)

- Martin-Paul Agbaga
- Takemi Tanaka
- Karla Rodgers
- Jian Xu
- Zhizhuang Zhao
- Shannon Conley
- Tomoko Obara
- Willard Freeman

- Kaan Kalkan
- Brenda Smith
- Jimmie Weaver
- Robert Matts
- Michael Criss
- Kevin Wilson
- Jason DeFreitas
- Junpeng Deng
- Arvind Santhakrishnan

University of Tulsa

- Joanne Davis

- Wei-Qun Ding
- Susana Chavez-Bueno

Oklahoma Medical Research Foundation (Oklahoma City)

- Yunzhou Dong
- Jianhua Song
- Robert Axtell
- Kenneth Miller

OSU Center for Health Sciences (Tulsa)

- Randall Davis
- Rashmi Kaul

OCAST ISSUES SCIENCE CERTIFICATES TO 1,612 STUDENTS

The annual Science and Technology Awards program for the 2013-14 school year recognized 1,612 science students who were nominated by 112 teachers from 84 schools across the state. Since 2007, students from 75 of Oklahoma's 77 counties have been recognized.

The recognition is a joint effort of Governor Mary Fallin's office, OCAST and science teachers across the state. Teachers nominated science students for a Science and Technology Award signed by Governor Fallin and OCAST Executive Director C. Michael Carolina.

OCAST sponsors Science and Technology Month to promote science and technology courses while also emphasizing the importance of these fields to our state's economy.

UCO, EDMOND HOST TECH SHOWCASE AUGUST 28

The 2014 Oklahoma Technology Showcase is scheduled for August 28, from 9 a.m. to 5 p.m. at the University of Central Oklahoma (UCO) in Edmond.

Nine of the state's innovative high-tech companies will be featured including MaxQ, Noble Foundation, CRTS, Choctaw Defense, Sensulin, ARL/DNA Solutions, VADovations, Charlesson and PolySkope. Each will give a 10 minute presentation that highlights their innovative products or services, life lessons learned as they pursued their ambitions and needs for collaboration or future funding.

Breakfast, lunch and a networking reception will provide several opportunities to network with inventors, manufacturers, researchers and leaders in the innovation economy.

Early –bird registration is available until August 8 for \$35. To register, visit www.techshowcase14.eventbrite.com. For information regarding sponsorships and vendor booth space, contact Chad Mullen at chad.mullen@ocast.ok.gov or call 405-319-8416. The event will be held in the Nigh University Center at UCO, located at 100 North University Drive, Edmond, OK 73034.

GOVERNOR FALLIN SIGNS STEM “COMMUNITY” BILL

Governor Fallin signed into law a bill that provides a framework for STEM communities across Oklahoma. STEM is the acronym for science, technology, engineering and math. To be designated as a STEM community, educators, business leaders, parents, government officials and industry groups must form partnerships to develop and implement a STEM plan that improves STEM education and training, identifies community resources and collects community data toward achieving the community’s desired outcomes.



Shawnee, Lawton, Tulsa, Duncan and Stillwater are organizing and have reached out to local businesses and community leaders to strengthen their focus on STEM.

The average STEM job growth for Oklahoma is expected to be 6,712 jobs per year for the next 10 years. During the same period, Oklahoma is expected to replace 54 percent of its existing STEM workforce due to retirement and other factors. STEM-trained workers are positioned to address the most critical challenges facing society. A technology certified workforce impacts Oklahoma businesses and their ability to remain competitive.

LAWMAKERS SET OCAST APPROPRIATION AT \$16.8 MILLION

OCAST’s appropriation for FY2015 is 5.5 percent or \$979,630 lower than the current fiscal year. The state’ science agency is among 52 state agencies that received budget reductions ranging from 1.2 to 43.3 percent from lawmakers who were challenged to develop a budget with \$188 million less than the current year. OCAST’s new budget is \$16.8 million.

Lawmakers took an additional \$4 million from the OCAST revolving funds. The reduction means less funding for research and development and fewer dollars for the seed capital fund approved by voters in 1998. Seed capital money is used to assist high-tech startups which historically are creators of high paying, quality jobs in Oklahoma.

Legislation beneficial to Oklahoma technology interests in aerospace, STEM communities and patent infringement were signed into law. At the same time, some pieces of legislation of concern to Oklahoma's science and technology community were not heard.

“Next year we will work with elected leaders to stress the importance of embracing the innovation economy and the positive impact such action will have on Oklahoma's economy,” said Chad Mullen, director of governmental relations for OCAST. “Our history shows that, by working with the private sector, higher education, the Department of Commerce and CareerTech, Oklahoma's economy has diversified to include advanced technology. When combined with energy and agriculture, technology has proven transformational.

“Our emphasis on research and development positions Oklahoma as one of the most resilient economies in the nation. At OCAST, we want to expand on that success through sound investment in science and technology,” said Mullen.

CALENDAR

[June 25-29](#) BIO International Convention

[June 25](#) Department of Defense SBIR deadline

[August 5](#) NIH, CDC, FDA and ACF SBIR and STTR deadline

[August 28](#) Oklahoma Technology Showcase

INNOVATIONS IN HISTORY

Oklahoma City is known as the birthplace of the parking meter but Cleveland, Ohio, is home to the first electric traffic signal lights. Those signal lights were installed August 5, 1952.

SBIR/OSCR DATES AND DEADLINES

Upcoming DOD Dates

The solicitation for the Department of Defense (DOD) SBIR (2014.2) has opened and can be found [here](#). It will close June 25, 2014.

Upcoming NIH Dates

The application submission period for the National Institutes of Health (NIH) SBIR and STTR closes August 5, 2014. Solicitations are available [here](#).

Upcoming USDA Dates

The topics for the United States Department of Agriculture (USDA) SBIR have not yet been released, but should be available later this month. The application period is expected to close in September 2014.

For more information about the OSCR program, please contact [Casey Harness](#) at 405-319-8404.

OKLAHOMA INNOVATIONS RADIO SHOW

For more than a decade the [Institute for Information Security \(iSec\)](#) at the University of Tulsa has been a leader in the field of information assurance. The institute draws on the expertise of multiple disciplines within the university including computer science, electrical engineering, mechanical engineering, business and law. [Listen to the radio show](#)

[PolySkope Labs](#), Oklahoma City, is among the most sophisticated food safety laboratories in the world. Their pathogen detection tests target highly specific virulence factor sequences using the latest molecular biology techniques, offering the highest throughput, sensitivity, specificity and quickest turnaround time available. [Listen to the radio show](#)

Dottie Overall of the Oklahoma [Small Business Administration](#) discusses who the SBA is and the services they offer new businesses. Larry Mocha, CEO of [Air Power Systems Company](#), or APSCO, explains how the SBA helped his business survive after the economic downturn in oil and gas in the 1980s. Mocha's business has grown to annual sales of \$10 million and he was recently honored as the 2014 Small Business Person of the Year for Oklahoma. He shares his tips for growing a successful business. [Listen to radio show](#)

Warren Thomas, managing partner with the Tinker Business and Industrial Park, discusses the Unmanned Systems Innovation Center created by the industrial park. The center will test business and other uses for drones in our state. It is focused on uses in agriculture, oil and natural gas, utilities, weather forecasting and assisting emergency first responders. [Listen to radio show](#)

Gunsmithing is the manufacturing and repair of rifles and handguns and one of the top programs for teaching the craft is located at Murray State College, Tishomingo. Joy McDaniel, president of Murray State, discusses the growing demand in this highly skilled profession. Students learn gun theory, stock making, precision machine metal work and metal finishing. One former student is now a TV personality on Wild West Alaska. [Listen to radio show](#)

Dr. Paul DeAngelis, entrepreneur, scientist and professor at the University of Oklahoma Health Sciences Center, discusses a new patented heparosan-based drug delivery technology that reduces how many times a patient may take a particular drug. Fewer drug doses means fewer

side effects and less impact on the body. DeAngelis and his team at the [Caisson Biotech](#) developed the new drug delivery platform. [Listen to radio show](#)



OCAST Executive Director Michael Carolina was interviewed for a public affairs program on KTBO-TV, Oklahoma City. Carolina discussed the impact of innovation on the economy in Oklahoma and shared success stories of researchers and innovators in our state.