

OCAST names four nanotechnology application award winners

Four Oklahoma research projects that will apply nanotechnology to business models have been approved for funding by the Oklahoma Center for the Advancement of Science and Technology. The award winners competed in the program's third round of nanotechnology application awards totaling nearly \$1.2 million over the next three years.

All four of the winning applicants are in the area of advanced materials.

Michael Carolina, executive director of OCAST, said, "Oklahoma is a leading state in fostering the application of nanotechnology to business models. Two of this week's award winners are from Oklahoma State University, one is from the University of Tulsa and one represents a private industry application from Ardmore."

The Oklahoma Nanotechnology Applications Project (ONAP) was created by the Oklahoma legislature to initiate a statewide project to accomplish the following:

1. Provide funding and technical support for the application of nanotechnology and assist later stage development of nanotechnology
2. Provide education about nanotechnology to the state's economic development network, researchers, manufacturers and businesses
3. Sustain the Oklahoma Nanotechnology Initiative (ONI) begun in 2005. OCAST contracted with The State Chamber of Oklahoma to operate ONI which provides a focus on the promotion and support of business, academic, manufacturing, employment and investment initiatives related to nanotechnology and coordinates activities on a regional basis for the benefit of Oklahoma

OCAST uses competitive peer review with a preference for likelihood of commercial success to determine successful applicants.

Winning nanotechnology awards include:

Stillwater – Oklahoma State University

Professor Yu (Jessie) Mao of OSU is studying nanocoating surface treatments for modification of regenerated fabrics and leather to produce sustainable products in healthcare, hospitality and transportation facilities. He plans to replace current technology that incorporates antimicrobial agents which result in leaching of chemicals in the environment as well as health problems. Matching funds are provided by the OSU Agricultural Experiment Station, Sustainable Solutions, Inc. and Circle LLC. Award: \$90,000 for two years.

Ardmore – Amethyst Research Inc.

Khalid Hossain of Amethyst Research Inc. proposes to develop compliant substrates using nanoengineering to improve lattice mismatch epitaxial thin film growth. The initial commercial offering of this technology will involve the growth of defect-free films used in the fabrication of high-performance transistors. The Office of Navy Research is providing match funding. Award: \$500,000 for three years.

Stillwater – Oklahoma State University

Professor Ranji Vaidyanathan of OSU will create composite material storage containers that are capable of storing or transporting alternative fuels with pressures up to 3,600 psi. Such composite tanks weigh less than current metal tanks and make storage and transport of alternative fuels more cost effective. Matching fund are provided by a NASA EPSCoR research project and Wilco Machine and Fab Inc. Award: \$499,924 for three years.

Tulsa –University of Tulsa

Professor Parameswar Hari of the University of Tulsa has discovered that zinc oxide nanorods can be selectively grown to produce open or closed nanostructures by controlling deposition conditions in a wet chemical process. Access Optics will work with the University of Tulsa on the project. The primary use of these detectors is in the form of sensors and medical monitors for anesthesia applications. Award: \$90,000 for two years.

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