

OCAST board approves \$1.248 million in funding for 29 Oklahoma Health Research projects across the state

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Twenty-nine health research projects proposed by Oklahoma scientists received funding support totaling \$1.248 million for FY 2020 from the Oklahoma Center for the Advancement of Science and Technology (OCAST) after they were approved Tuesday by the agency's governing board.

The Oklahoma Science and Technology Research and Development (OSTRaD) Board approved Oklahoma Health Research Program proposals ranging from ways to prevent Type 2 diabetes, eye disease, reducing mortality in older trauma patients and exploring strategies to reduce the rate of suicide, and other significant health issues.

In addition, the OCAST board approved \$225,000 in FY 2020 funding support for three Oklahoma Health Research Postdoctoral Fellowship applications.

The approved Oklahoma Health Research proposals were funded for the first of a three-year lifespan for most of the projects. Postdoctoral Fellowship were funded for the first year for two year projects. Funding support ranged from \$20,000 to \$45,000 annually for each project.

The 29 funded Oklahoma Health Research Program proposals were among 87 approved from 130 applications. The three funded Postdoctoral Fellowship proposals were among 7 approved from 13 applications.

OCAST is a legislatively funded state agency with a mission to expand and diversify Oklahoma's economy by supporting research and development of new projects, processes and industries. The number of projects and amount of awards it supports are dependent on annual legislative appropriations.

The number of applications for the FY 2020 Health Research Program awards was slightly more than the 127 proposals received annually over its 34-year lifespan. The award rate of 22 percent of proposed projects was slightly below the average of 23 percent since the program began in 1987.

"We are pleased to see that so many life science researchers across Oklahoma continue to seek OCAST support for their early stage research projects through our Health Research Program," said Michael Carolina, OCAST executive director. "Unfortunately, the legislatively appropriated dollars available to fund the research limits the number of projects we can support, leaving many worthy proposals on the table. Based on past year's return on investment of 5:1 for the Health Research program, the 58 projects that were approved but unfunded represent a potential loss to the state's economy of \$53,252,000."

OCAST funding helps Oklahoma life science researchers gather data that often attract much larger federal grants, which result in groundbreaking research.

Funded proposals were received from across the state, including the University of Oklahoma Health Sciences Center, Oklahoma State University, the University of Oklahoma, Northeastern State University, the Oklahoma Medical Research Foundation, the OSU Center for Health Sciences, Southwestern Oklahoma State University and Tulsa University.

Successful postdoctoral Fellowship projects approved for funding were received from the Oklahoma Medical Research Foundation, the University of Central Oklahoma and the University of Oklahoma.

OCAST is the central organization of what has become known nationally as the Oklahoma Innovation Model, which supports R&D, inventors, entrepreneurs and new ventures across the state.

Each OCAST program was created with a goal of supporting science and technology R&D by facilitating collaboration between state government, universities, startup companies and established large-scale firms to develop an entrepreneurial environment that supports technology-based economic development.

Successful applicants, organizations and projects titles are:

PI	Organization	Title
Postdoctoral Fellowship		
Susan Kovats	Oklahoma Medical Research Foundation	Targeting Guanylate Cyclase/cGMP/Phosphodiesterase-5 Signaling Pathway for Colorectal Cancer Prevention
Wei R. Chen	University of Central Oklahoma	Laser Immunotherapy, A Novel Way to Stimulate Antitumor Immunity
Cecil Lewis	University of Oklahoma	Genomic Determinants of Tetracycline Resistance in a Non-Industrial Population

Health Research		
Ramesh Kaipa	Oklahoma State University	Role of Altered Auditory Feedback and Principles of Motor Learning in Improving Speech Intelligibility in People With Parkinson's Disease
Michael B Stout	OU Health Sciences Center	Role of Hypothalamic Estrogen Receptor-A in 17 α -Estradiol- Mediated Metabolic Benefits
Xi-Qin Ding	OU Health Sciences Center	Exploration of the Mechanisms Underlying the Thyroid Hormone Signaling-Induced Cone Photoreceptor Degeneration
Matthew Cabeen	Oklahoma State University	Regulation of P. Aeruginosa Biofilm Formation by a DNA-Binding Protein
Tabitha Garwe	OU Health Sciences Center	Geriatric Trauma Secondary Triage: Development and Validation of a Risk Score to Identify Patients Requiring Transfer to a Level I/II Trauma Facility
Indrajeet Sharma	University of Oklahoma	Iron Catalyzed Carbene Annulations to Access Medium-Sized Heterocycles for Drug Discovery
Arpan A. Sinha	OU Health Sciences Center	Defining Leukemia Stem Cells in MYC-Driven Cancers to Understand Resistance and Relapse

Fernando Luis Esteban Florez	OU Health Sciences Center	GRF00003918: Ultra-Bright High Throughput Quantification of Cells' Viability and 'Smart' Adhesive Resins With Long-Term Antibacterial Properties
Tony Wells	Oklahoma State University	Identifying Concealed Suicide Risk Via Implicit Cognition
Erika Lutter	Oklahoma State University	Manipulation of Host Kinases by Chlamydia Trachomatis
Sam R Emerson	Oklahoma State University	Validity and Reproducibility of Clinically Feasible Postprandial Testing
Tim Hubin	Southwestern Oklahoma State University	Novel Dual CXCR4/CXCR7 Chemokine Receptor Antagonists: Targeting Secondary Disease Progression in Cancer
Yun Le	OU Health Sciences Center	Function of VEGF in the Retina
Michael J. Morgan	Northeastern State University	Improving Chemotherapy by Potentiation of Necroptosis in AML
Veronique Lacombe	Oklahoma State University	The Sarcoplasmic Reticulum Calcium ATPase Pump as a Major Regulator of Glucose Metabolism: A Novel Target for Diabetic Patients
Evan Floyd	OU Health Sciences Center	A Novel Desorption Technology to Increase Exposure Assessment Sensitivity and Simplicity
Patrick McCann	University of Oklahoma	A Sensor Technology for Real- Time Metabolic Monitoring - A New Way to Detect Cancer
Blaine Mooers	OU Health Sciences Center	Role of a Lysine Hydroxylase in Breast Cancer
Roberto J. Pezza	Oklahoma Medical Research Foundation	The Role of Chd4-NURD and Chd3-NURD Chromatin Remodelers in Mouse Gametogenesis
Randolph D. Hubach	OSU-Center for Health Sciences	Ending the Epidemic: Reducing the HIV/STI Burden Among Rural Oklahoma Men
Lin Liu	Oklahoma State University	Role of Tankryase 2 in Lung Innate Immunity
Xin Zhang	OU Health Sciences Center	How KAI1 Inhibits Cancer
Stefan Wilhelm	University of Oklahoma	Engineering a Novel Surface Coating Platform for Nanomedicines
William L. Berry	OU Health Sciences Center	The Role of PDGF Signaling Mechanotransduction Nexus in the Development of Peritoneal Adhesions
Pavan Parikh	OU Health Sciences Center	Towards Enhanced Recovery After Cesarean: Scheduled Post- Operative Medication – A Randomized Controlled Trial
Wei-Qun Ding	OU Health Sciences Center	Exosome Mediated Transfer of Metastasis Associated Protein 1 in Metastatic Breast Cancer

Aurelie Azoug	Oklahoma State University	A Smart Skin to Treat and Prevent Pressure Ulcers
Rakhi Rajan	University of Oklahoma	Protein Engineering to Develop Stringent CRISPR-Cas Genome Tools
Warren Booth	University of Tulsa	Does Socio-Economic Status Influence the Genetic Structure, Diversity and Gene Flow, of a Resurging Urban Pest Insect of Public Health Significance