

## 2014 Oklahoma Applied Research Awards

Project Number	PI	Organization	Project Title	Award Amount
AR14-009	Dr. Aravind Seshadri	Roll-2-Roll Technologies LLC	Design and development of a next generation lateral guide for roll-to-roll manufacturing	\$299,966
AR14-015	Dr. Shaorong Liu	MicroChem Solutions	Polymer monolith-based high-pressure electroosmotic micropump	\$300,000
AR14-016	Dr. Yan Zhang	The Board of Regents of the University of Oklahoma	Multifunctional airborne sense and avoid radar development	\$90,000
AR14-020	Dr. Richard Kopke	Hough Ear Institute	Novel therapeutic treatment for tinnitus, hyperacusis and brain injury	\$300,000
AR14-035	Dr. Zhisheng Shi	The Board of Regents of the University of Oklahoma	Quantum dot solar cells fabricated by industrially viable process	\$90,000
AR14-038	Dr. Khalid Hossain	Amethyst Research Inc.	R & D of a unique analytical facility in support of shale exploration: Nuclear microprobe for geochemical & mineralogical characterization	\$299,996
AR14-041	Dr. Terry Golding	Amethyst Research Inc.	Heterostructure silicon solar cells based on Group IV colloidal quantum dots	\$299,417
AR14-042	Dr. Saravan Kumar Shanmugavelayudam	MaxQ Research LLC	Development of novel, compartmentalized vacuum insulation composites for structural applications	\$200,000
AR14-044	Dr. Scott Rollins	Selexys Pharmaceuticals	A novel antibody therapeutic approach to treat multiple myeloma	\$297,599
AR14-045	Dr. Jay Martin	Martin Bionics Innovations	Compliant force distribution modular socket interface for prosthetics and orthotics	\$300,000
AR14-052	Dr. Jerzy Krasinski	Oklahoma State University	Development of high efficiency nanostructured thermoelectric generators for industrial waste heat recovery	\$299,997
AR14-056	Dr. Robert Broyles	EpimedX	A novel treatment for sickle cell disease: Dosing strategy for maximum efficacy	\$80,935
AR14-060	Dr. Christopher Sutton	SnapLab Technologies, LLC	Autonomous handling and analysis of heterogeneous-phase media	\$300,000
AR14-062	Dr. Sean Bauman	Immuno-Mycologics Inc.	Phage display approach to develop an antigen immunoassay for diagnosis of tuberculosis	\$298,760
AR14-065	Dr. Nirmal Govindaraju	Oklahoma State University	Nanodiamond for biological imaging applications	\$90,000

## 2014 Health Research Awards

Project Number	PI	Organization	Project Title	Award Amount
HR14-003	Dr. Kenneth Miller	Oklahoma Medical Research Foundation	Pathways controlling a newly discovered organelle gatekeeper in neurons	\$135,000
HR14-007	Dr. Randall Davis	Oklahoma State University Center for Health Sciences	Advancing therapeutic options for treating major depressive disorders using a novel anti-inflammatory agent	\$135,000
HR14-022	Dr. Arvind Santhanakrishnan	Oklahoma State University	Left ventricular dyssynchrony in heart failure: Investigation of altered hemodynamics and diagnostic accuracy of MRI using an in vitro phantom model	\$135,000
HR14-023	Dr. Jason DeFreitas	Oklahoma State University	Muscle spindle and motor unit function with aging	\$134,832
HR14-040	Dr. Robert Matts	Oklahoma State University	Effect of Hsp90 inhibitors on miRNA expression in cancer	\$135,000
HR14-042	Dr. Valentin Rybenkov	The Board of Regents of the University of Oklahoma	Condensin dependent potentiation of antibiotics	\$135,000
HR14-043	Dr. Kaan Kalkan	Oklahoma State University	Protein-nanoparticle photoswitches for subcellular imaging	\$135,000
HR14-050	Dr. Jianhua Song	Oklahoma Medical Research Foundation	Podoplanin regulation of vascular endothelial cell identity and tumor transformation	\$135,000
HR14-056	Dr. Rheel Towner	Oklahoma Medical Research Foundation	Molecular mechanisms of epsins in obesity	\$135,000
HR14-060	Dr. Lin Liu	Oklahoma State University	Purineric P2X7 receptor as a pro-inflammatory molecule	\$135,000
HR14-062	Dr. Jian Xu	The Board of Regents of the University of Oklahoma Health Sciences Center	Role of ULK1 in diabetic impairment of angiogenesis	\$135,000
HR14-065	Dr. Rashmi Kaul	Oklahoma State University Center for Health Sciences	Nanoparticles for drug delivery and treatment of urinary tract infections	\$135,000
HR14-067	Dr. John Kimble Frazer	The Board of Regents of the University of Oklahoma Health Sciences Center	Oncogenic roles of TCF3 and ID3 in pediatric T cell cancers	\$135,000
HR14-068	Dr. Junpeng Deng	Oklahoma State University	Structure and function studies on the signaling complex of interleukin 18	\$135,000
HR14-072	Dr. Jimmie Weaver	Oklahoma State University	Photoredox catalysis for the rapid synthesis of diverse medicinally relevant motifs	\$135,000
HR14-082	Dr. Tomoko Obara	The Board of Regents of the University of Oklahoma Health Sciences Center	Role of Wtip in chronic kidney disease	\$135,000
HR14-097	Dr. Zhizhuang Zhao	The Board of Regents of the University of Oklahoma Health Sciences Center	Targeting JAK2 and p53 to treat Myeloproliferative Neoplasms	\$135,000
HR14-109	Dr. Karla Rodgers	The Board of Regents of the University of Oklahoma Health Sciences Center	Novel functions of Recombinase proteins in DNA damage response	\$135,000
HR14-112	Dr. Takemi Tanaka	The Board of Regents of the University of Oklahoma Health Sciences Center	Improvement of neoadjuvant therapy for breast cancer	\$134,977
HR14-117	Dr. Chi Chan	The Board of Regents of the University of Oklahoma Health Sciences Center	Studying the anti-obesity mechanism of BDNF mimetic	\$90,000
HR14-123	Dr. Susana Chavez-Bueno	The Board of Regents of the University of Oklahoma Health Sciences Center	Bacterial genes relevant to gut translocation and virulence in neonatal Escherichia coli strains	\$89,710

HR14-125	Dr. Martin-Paul Agbaga	The Board of Regents of the University of Oklahoma Health Sciences Center	Essential role of VLC-PUFA in prevention of retinal degeneration	\$135,000
HR14-126	Dr. Brenda Smith	Oklahoma State University	Food-derived bioactive components and the gut as a therapeutic target for Osteoporosis	\$135,000
HR14-127	Dr. Joanne Davis	University of Tulsa	Integrating sleep and PTSD treatment: Examining the role of emotion regulation	\$123,637
HR14-129	Dr. Ulrich Hansmann	The Board of Regents of the University of Oklahoma	Modeling the molecular mechanism of amyloid oligomer and fibril self-assembly	\$90,000
HR14-131	Dr. Michael Criss	Oklahoma State University	Daily peer interactions and enduring relationship attributes as predictors of adolescent sleep	\$120,451
HR14-136	Dr. Roger Harrison	The Board of Regents of the University of Oklahoma	Photothermal and immunostimulation therapy of melanoma	\$133,026
HR14-138	Dr. Robert Axtell	Oklahoma Medical Research Foundation	Interplay between neutrophils and B-cells in Neuro-autoimmunity	\$135,000
HR14-146	Dr. Kevin Wilson	Oklahoma State University	Translation complexes in E. coli persists	\$135,000
HR14-147	Dr. Wei-Qun Ding	The Board of Regents of the University of Oklahoma Health Sciences Center	Targeting exosome-mediated intercommunication in breast cancer progression	\$134,500
HR14-150	Dr. Shannon Conley	The Board of Regents of the University of Oklahoma Health Sciences Center	Identification of overlapping disease mechanisms for macular degeneration associated with different mutations in the RDS gene	\$135,000
HR14-152	Dr. Zhibo Yang	The Board of Regents of the University of Oklahoma	Single cell level mass spectrometry analysis for anti-cancer drug pharmacology	\$134,863
HR14-160	Dr. Chuanbin Mao	The Board of Regents of the University of Oklahoma	Highly efficient non-viral VEGF gene delivery to human mesenchymal stem cells by phage-like nanoparticles	\$135,000
HR14-174	Dr. Willard Freeman	The Board of Regents of the University of Oklahoma Health Sciences Center	Persistent neuroepigenetic modifications caused by early-life endocrine factors	\$135,000

## 2014 Intern Partnership Awards

Project Number	PI	Organization	Project Title	Award Amount
IP14.1-002	Dr. Surendra Singh	University of Tulsa	Design and development of emission solutions	\$60,000
IP14.1-003	Dr. Surendra Singh	University of Tulsa	Design and development of aircraft components	\$60,000
IP14.1-004	Dr. Fabiola Janiak-Spens	Oklahoma City Community College	Internships for biotechnology program students	\$27,360
IP14.1-018	Mr. Tom Jobe	SensiQ Technologies Inc.	Label-free platform for drug discovery research & development	\$59,400
IP14.1-021	Mr. Lloyd Salsman	Frontier Electronic Systems Corporation	Evaluation/analysis intern supporting lithium battery manufacture	\$22,331
IP14.1-026	Dr. Jerald Dawkins	True Digital Security	Critical infrastructure cyber security information sharing	\$60,000
IP14.1-028	Dr. Ranji Vaidyanathan	Oklahoma State University	RDIP: Interns for adsorbed natural gas composite tanks	\$31,689
IP14.2-004	Dr. Surendra Singh	University of Tulsa	Design and development of IED defeat tools	\$36,000
IP14.2-005	Dr. Surendra Singh	University of Tulsa	Design and development of aircraft components	\$60,000
IP14.2-007	Dr. Jason Wickham	Northwestern Oklahoma State University	Distribution and quantity of iodine with relationship to aquifer formations in northwestern Oklahoma brine waters	\$23,720
IP14.2-008	Dr. Kaveh Ashenayi	University of Tulsa	Development of next generation fan	\$21,471
IP14.2-009	Dr. Kaveh Ashenayi	University of Tulsa	Development of an accurate conductivity-meter	\$21,721
IP14.2-012	Dr. Robert Sheaff	University of Tulsa	Further development of hyperthermia therapy protocols for abdominal and pelvic cancers	\$60,000
IP14.2-018	Dr. Wayne Jones	Spiers New Technologies Inc.	Applying advanced manufacturing techniques to automotive battery structure	\$28,800
IP14.2-019	Dr. John Dyer	Spiers New Technologies Inc.	Bluetooth enabled battery management system	\$28,800
IP14.2-022	Dr. Yongqiang Tan	SouthWest Nano Technologies Inc.	Application development with carbon nanotubes	\$30,000

## 2014 Plant Science Awards

Project Number	PI	Organization	Project Title	Award Amount
PS14-008	Dr. Ben Holt	The Board of Regents of the University of Oklahoma	Conserved mechanisms in plant fertility and plant-pathogen interactions	\$99,736
PS14-010	Dr. Kristen Baum	Oklahoma State University	The interaction of pollinators and pest management strategies in increasing production in a 1st generation biofuel crop	\$99,944
PS14-025	Dr. Marc Libault	The Board of Regents of the University of Oklahoma	Unraveling the transcriptional regulation of plant cell elongation	\$99,468