

**2018 Oklahoma Applied Research Awards**

<b>Project Number</b>	<b>PI</b>	<b>Organization</b>	<b>Project Title</b>	<b>Award Amount</b>
AR18-056	Faith	SpectrumFX	Optimization of flow and disbursement for a green fire suppression agent	\$44,588
AR18-019	Jupe	Progentec Diagnostics, Inc.	Translation of a diagnostic test for Lupus flare prediction from bench to clinic	\$150,000
AR18-045	Refai	Optecks, LLC	Intra-operative 3D scanning system for minimally invasive surgery	\$300,000
AR18-078	Manimala	Oklahoma State University	Acoustic metastructures for next generation aircraft liners	\$290,650
AR18-035	Ramsey	Oklahoma State University	Commercialization of a novel single-use bioreactor	\$150,000
AR18-063	Santos	University of Oklahoma	Infrared detectors with narrow tunable linewidths	\$90,000
AR18-033	Pereyra	University of Tulsa	Downhole separator design for pumping systems in horizontal wells	\$184,795
AR18-069	Shao	Amethyst Research, Inc.	eSWIR	\$300,000
AR18-026	Mohan	University of Tulsa	Novel compact separators for fine separation of water and oil	\$90,000
AR18-008	Saparov	University of Oklahoma	Solution-processable halides for radiation detection	\$300,000
AR18-028	Rouser	Oklahoma State University	Turboelectric unmanned aircraft sensor system for oil and gas pipeline inspection	\$84,519
AR18-073	Moses	University of Oklahoma	Development of intelligent protection systems for mitigating dynamic disturbances in remote distribution feeders with microgrids	\$74,087
AR18-070	Shojaee	Amethyst Research, Inc.	A new class of miniaturized lightweight highly efficient solid state cryogenic cooler	\$90,000
AR18-052	Sellers	University of Oklahoma	Deployable CIGS solar cells for "SmallSat" deep space missions	\$300,000
AR18-025	Ramanathan	Oklahoma State University	Novel nitrite embedded packaging to increase value of dark-cutting beef	\$90,000
AR18-037	Soliman	Oklahoma State University	New steel connections for seismic retrofit and strengthening of bridges and buildings	\$220,828
AR18-015	Platvoet	XRG Technologies LLC	Development of a fluid turbulator for use in fired heaters to reduce fouling	\$300,000
AR18-050	Shaffer	GasTech Engineering LLC	Low-NOx and low-noise burner final development	\$182,176

AR18-042	Lampert	Oklahoma State University	Aeration process controls to reduce energy costs in wastewater treatment plants	\$90,000
AR18-022	Hossain	Amethyst Research, Inc.	Natural gas-water mixture as an alternate fracturing fluid to enhance oil and gas recovery from unconventional reservoirs	\$300,000
AR18-023	Fahs	University of Oklahoma	A novel method for enhancing artificial lift performance	\$25,000
AR18-009	King	Exaptive, Inc.	Data model and algorithms for data-driven team building with quantifiable exaptation potential	\$300,000

**2018 Health Fellowship Awards**

<b>Project Number</b>	<b>PI</b>	<b>Organization</b>	<b>Project Title</b>	<b>Award Amount</b>
HF18-022	Griffin	Oklahoma Medical Research Foundation	Role of lysine malonylation in chondrocyte metabolic stress and osteoarthritis	\$150,000
HF18-014	Griffin	Oklahoma Medical Research Foundation	Investigation of the role of hypoxia in initiating hyaloid vessel regression	\$149,722
HF18-008	Elliott	University of Oklahoma Health Sciences Center	The role of TRAF3 in retinal function and inflammation	\$150,000

**2018 Health Research Awards**

<b>Project Number</b>	<b>PI</b>	<b>Organization</b>	<b>Project Title</b>	<b>Award Amount</b>
HR18-077	Cecil	Oklahoma State University	Investigation of impact of virtual reality based cyber learning approaches to ABA techniques for teaching STEM concepts to children with autism	\$79,895
HR18-097	Oomens	Oklahoma State University	A novel virus-like-particle based RSV vaccine to generate broad and durable protection	\$135,000
HR18-046	Christiansen	University of Oklahoma Health Sciences Center	Does Prolyl oligopeptidase inhibition suppress tumor growth?	\$135,000
HR18-104	DeAngelis	University of Oklahoma Health Sciences Center	Tetherable Glycosaminoglycan polymers for insights into matrix/cell/protein interactions	\$135,000
HR18-039	Rhudy	University of Tulsa	Does glucose dysmetabolism contribute to Native American pain disparities?: A pilot study	\$135,000
HR18-120	Sonntag	University of Oklahoma Health Sciences Center	Susceptibility to amyloid oligomers in response to aging and insulin/IGF-1 resistance	\$135,000
HR18-034	Wang	University of Oklahoma Health Sciences Center	Development and evaluation of vibration-based wearable upper limb rehabilitation device	\$134,964
HR18-118	Conley	University of Oklahoma Health Sciences Center	The role of vascular smooth muscle cell plasticity in age-related cognitive decline	\$135,000
HR18-139	Ekhtiari	Laureate Institute for Brain Research	Neurocognitive empowerment for addiction treatment (NEAT): A randomized controlled trial for opioid addiction	\$133,943
HR18-069	Fan	Oklahoma State University	A mobile platform for clinical gait analysis	\$135,000
HR18-053	Sathyaseelan	University of Oklahoma Health Sciences Center	Testing the role of inflammation in aging and age-related diseases	\$135,000
HR18-079	Sweatt	Oklahoma State University	Identifying a direct path to emotion dysregulation in borderline personality	\$134,245
HR18-013	Lamar	University of Tulsa	Late-Stage C-N incorporation to bioactive cores	\$135,000
HR18-011	Janknecht	University of Oklahoma Health Sciences Center	Oxygenase JMJD4 and its role in breast cancer	\$135,000
HR18-110	West	University of Oklahoma	Two-component signal transduction in the human bacterial pathogen Clostridioides difficile	\$135,000
HR18-005	Mao	Oklahoma State University	Nanocoatings for controlled drug release and improved biocompatibility	\$135,000
HR18-002	Lee	University of Oklahoma	Novel shape memory polymer devices for optimal endovascular embolization of intracranial aneurysms	\$135,000
HR18-072	Rodgers	University of Oklahoma Health Sciences Center	Regulation of RAG2-chromatin interactions during V(D)J recombination	\$135,000
HR18-037	Ruiz-Echevarria	University of Oklahoma Health Sciences Center	Defining the role of the TMEFF2 transcript in androgen signaling in prostate cancer	\$135,000

HR18-093	Andiappan	Oklahoma State University	Copper nanocatalyst as efficient heterogeneous photocatalyst for continuous syntheses of pharmaceuticals through cross-coupling reactions	\$134,757
HR18-119	Vassar	Oklahoma State University Center for Health Sciences	Factors influencing the reproducibility of clinical trials and systematic reviews in addiction research	\$119,547
HR18-092	Csiszar	University of Oklahoma Health Sciences Center	Novel mechanism of age-related cerebrovascular dysfunction	\$135,000
HR18-088	Ramesh	University of Oklahoma Health Sciences Center	Non-invasive liquid biopsy approach for using exosomes as a surrogate for determining response to immunotherapy in lung cancer patients	\$135,000
HR18-089	Curtis	Oklahoma State University Center for Health Sciences	Neuroimmune activation and weight gain in a rat model of post-menopausal obesity	\$135,000
HR18-054	Kollock	University of Tulsa	Fit-for-duty: An examination of the efficacy of the physical abilities test in determining physical readiness	\$114,666
HR18-113	Zhao	University of Oklahoma Health Sciences Center	Define the role of Mpl in myelofibrosis	\$135,000
HR18-087	Paiva	Oklahoma State University Center for Health Sciences	Validating a clinical decision support algorithm developed with big data to diagnose, state, prevent, and monitor a patient's diabetic retinopathy	\$90,000
HR18-040	Greenwood-Van Meerveld	University of Oklahoma Health Sciences Center	Central epigenetic reprogramming of amygdala receptor expression in stress-induced chronic pain	\$135,000
HR18-049	Hussaini	University of Tulsa	Discovery of Indolizidine (-)-237D analogs as selective $\alpha_6^*$ receptor antagonists	\$135,000
HR18-130	Shao	University of Oklahoma	Rational development of selective and potent inhibitors to pro-apoptotic Bax protein	\$135,000
HR18-085	Wang	Oklahoma State University	Non-contact, in vivo measurement of hyper-elastic response of bio-membranes for predicting traumatic injuries	\$103,957

**2018 Intern Partnership Awards**

<b>Project Number</b>	<b>PI</b>	<b>Organization</b>	<b>Project Title</b>	<b>Award Amount</b>
IP18-015	Singh	University of Tulsa	Design and development of aircraft components	\$60,000
IP18-017	Ashenayi	University of Tulsa	Design, development and use of a gear fatigue test rig	\$38,694
IP18-014	Singh	University of Tulsa	Design and development of robotic positioning systems	\$36,000
IP18-023	Zaman	University of Oklahoma	Improved relationships between properties of high strength concrete for better quality control and forensic investigations	\$36,164
IP18-025	Muehring	NextThought, LLC	NextThought - OU CS intern program	\$60,000
IP18-005	Ashenayi	University of Tulsa	Switchgear simulator graphics upgrade	\$38,694
IP18-008	Singh	University of Tulsa	Design and development of process plant components	\$60,000
IP18-013	Hawrylak	University of Tulsa	Updating legacy downhole equipment tools for compliance to API 11D1 certification	\$58,914
IP18-016	Hawrylak	University of Tulsa	Ensuring project compliance with American Petroleum Industry (API) Standards 520 and 521	\$36,114
IP18-026	Salehy	True Digital Security	True Digital Security platform module integration and development	\$60,000

**2018 Plant Science Awards**

<b>Project Number</b>	<b>PI</b>	<b>Organization</b>	<b>Project Title</b>	<b>Award Amount</b>
PS18-016	Fathpure	Oklahoma State University	Pretreatment of switchgrass by fungi-bacteria co-culture for effective saccharification and butanol production	\$100,000
PS18-027	Moore	University of Oklahoma	Preliminary study of genetic diversity in Grindelia ciliata, a promising biofuel crop native to Oklahoma	\$99,952
PS18-012	Zhao	Noble Research Institute, LLC	Development of PSSPGD Server - a web server for plant small signaling peptide-encoding gene discovery	\$99,467
PS18-028	Ma	Noble Research Institute, LLC	Unraveling genes underlying dual-purpose wheat seedling drought and heat tolerance using automated phenotyping platforms	\$99,247
PS18-018	Fokar	Oklahoma State University	Forward genetic analysis of cotton fiber development	\$99,492
PS18-026	McCarthy	University of Oklahoma	The physiological basis of drought stress responsiveness of switchgrass genotypes with altered cell wall metabolism	\$99,223
PS18-025	Allen	Oklahoma State University	Stress tolerant cotton	\$99,328
PS18-014	Sunkar	Oklahoma State University	Elucidating the role of microRNAs in photosynthesis by using closely related C3, C3-C4, and C4 Flaveria species	\$100,000