



Research Awards

**Research, scholarly, and
creative activity and discovery at
Kansas State University**

July 1, 2018–June 30, 2019



October 8, 2019

Dear Colleague:

The Office of the Vice President for Research is pleased to provide the attached proposal/award activity report for the period July 1, 2018–June 30, 2019. These reports document faculty efforts to obtain extramural support, along with a summary of their respective successes to date. A monthly listing of awards is available at k-state.edu/research/our-research/reports.

Total extramural funding at Kansas State University has increased 34 percent in the past four fiscal years. In fiscal year (FY) 2019, K-State faculty members obtained 1,553 awards for a record total of \$173,586,081, an 8% increase over last year's record funding achievement.

Our portfolio of awards has also grown more diverse. From FY 2018 to FY 2019, awards from federal sponsors increased by 5%, with nearly all agencies showing increases, while funding from state and local governments and industry sponsors also increased by 3% and 13% respectively.

K-State continues to attract industry-funded projects. Our institution's reputation as an excellent partner has been demonstrated by continued growth in the number of industry-funded projects, which increased from 291 to 359 funded projects for FY 2019, an increase of 23% over last year, resulting in a 13% or \$3.6 million increase in funding. This upward trend demonstrates a 77% increase in the number of industry-funded projects and over 240% increase in industry funding, over the last four years.

K-State continued to attract strategic sponsorship. K-State continued to engage with strategic sponsors through the execution of Master Research and Testing and Evaluation Agreements. Thirty-three new or renewed Master Agreements became effective during FY 2019. These agreements indicate strategic, enduring alliances that have helped us build a nimble approach to project engagement.

It was certainly an all-around record year for K-State extramural funding, further demonstrating K-State as a leader and primary contributor to the world innovation ecosystem.

If you have any questions regarding the contents of the attached report, please contact Paul Lowe at plowe@k-state.edu or 532-6804 or Cecelia Scaler at cscaler@k-state.edu or 5322-6804.

Thank you for your continued support and hard work.

Sincerely,



Peter K. Dorhout, Ph.D.
Vice President for Research

FY19 ANNUAL REPORT
RESEARCH/SCHOLARLY ACTIVITY FUNDING BASE
KANSAS STATE UNIVERSITY

The research funding base at Kansas State University consists of funds appropriated from federal and state sources, gifts from alumni and friends, and awards of extramural funds from federal and state agencies, foundations, and various private and industrial organizations, mainly through the competitive grants process.

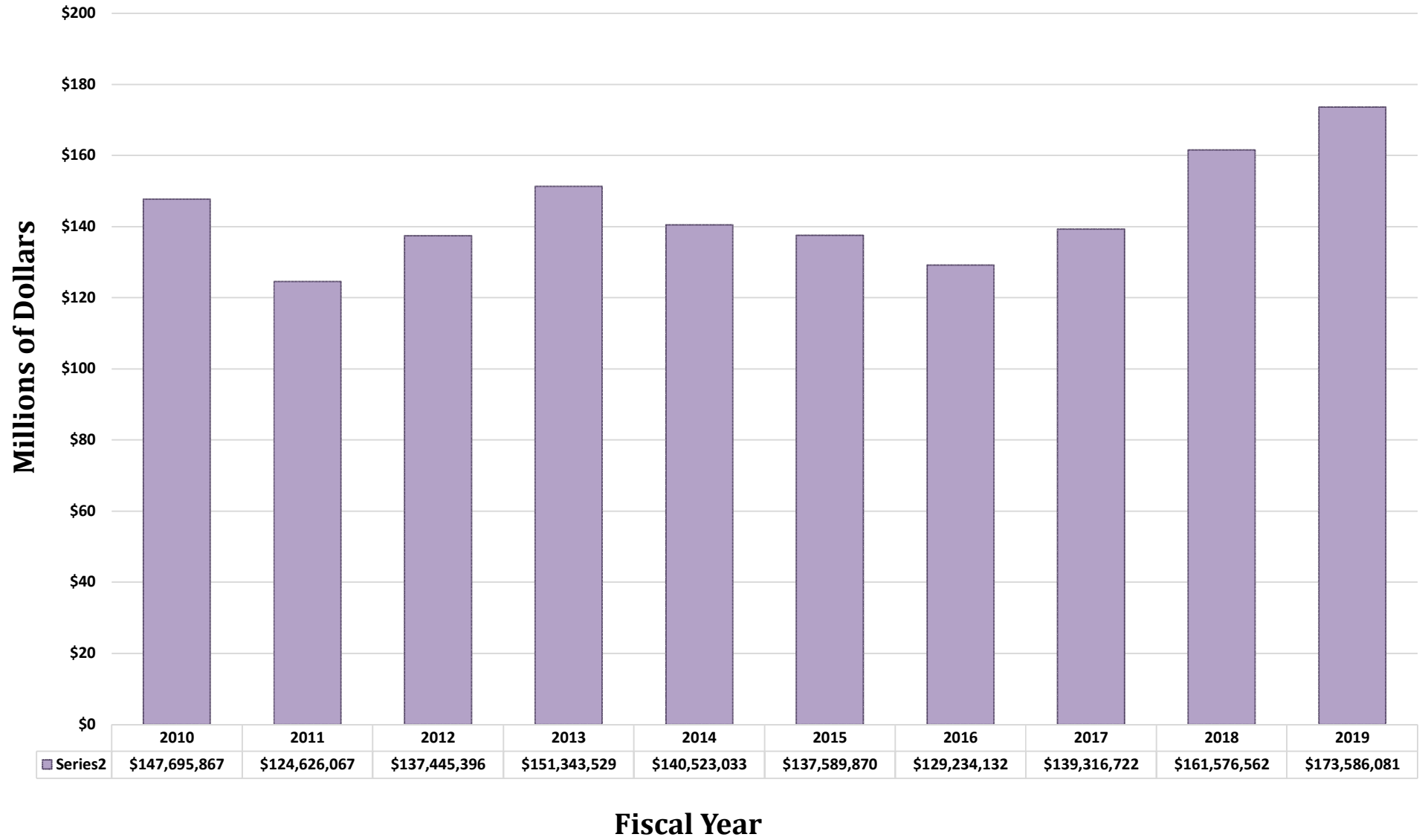
I. Sponsored		\$173,586,081
II. Appropriated		
Main Campus State Appropriation	\$32,109,354	
Experiment Station Programs and Extension Services		
Federal Appropriation*	\$10,366,947	
State Appropriation	\$47,043,196	
Veterinary Medical Center State Appropriation	\$217,675	
College of Technology and Aviation	\$690,463	
State Appropriation		
SUBTOTAL		\$90,427,635
III. Donated**		\$48,690,468
RESEARCH/SCHOLARLY ACTIVITY BASE GRAND TOTAL		\$312,704,184

*As of 8/9/19

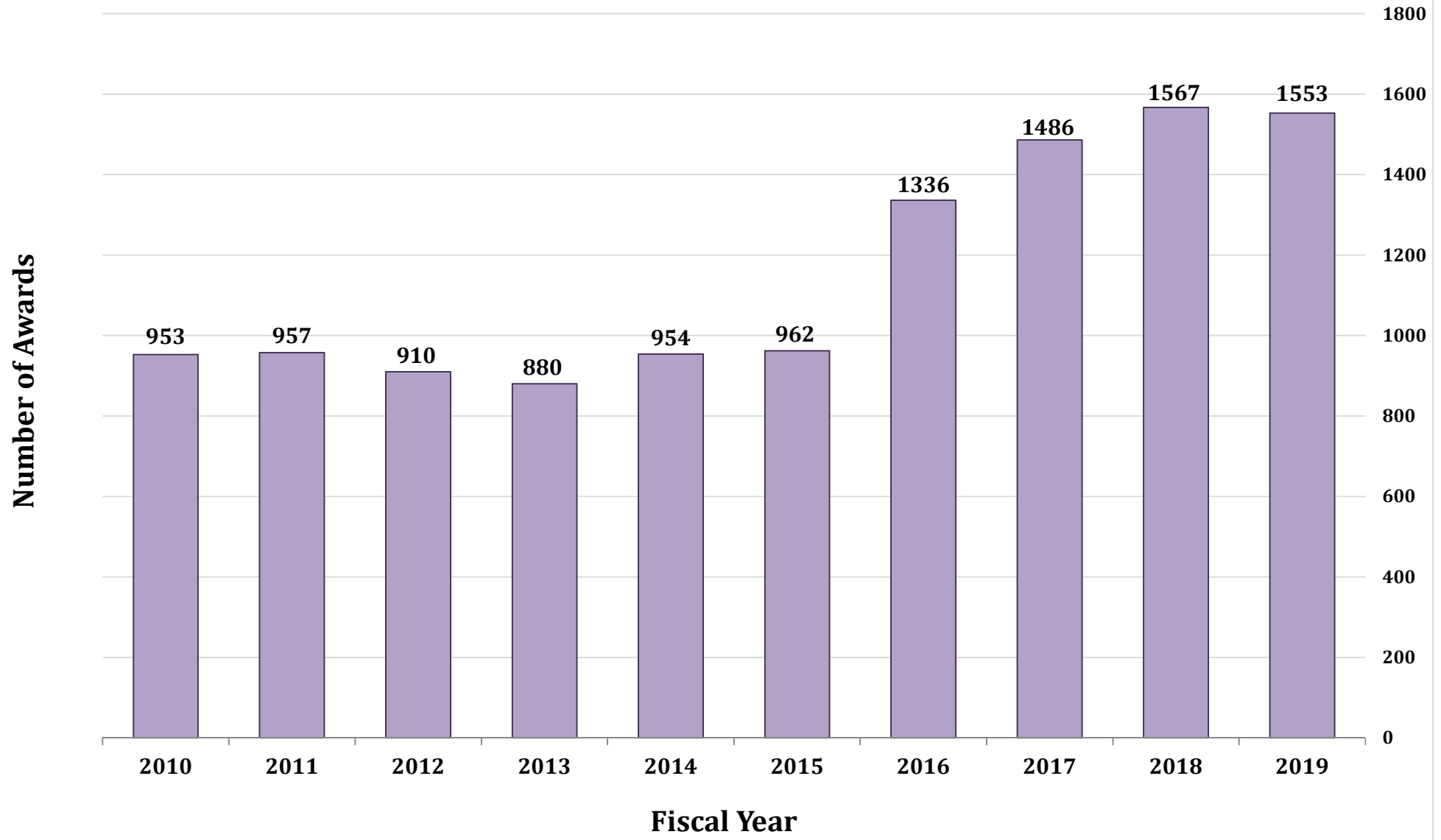
**KSU Foundation funds transferred to KSU in support of research/scholarly activity (excludes transfers to Athletics).

Kansas State University

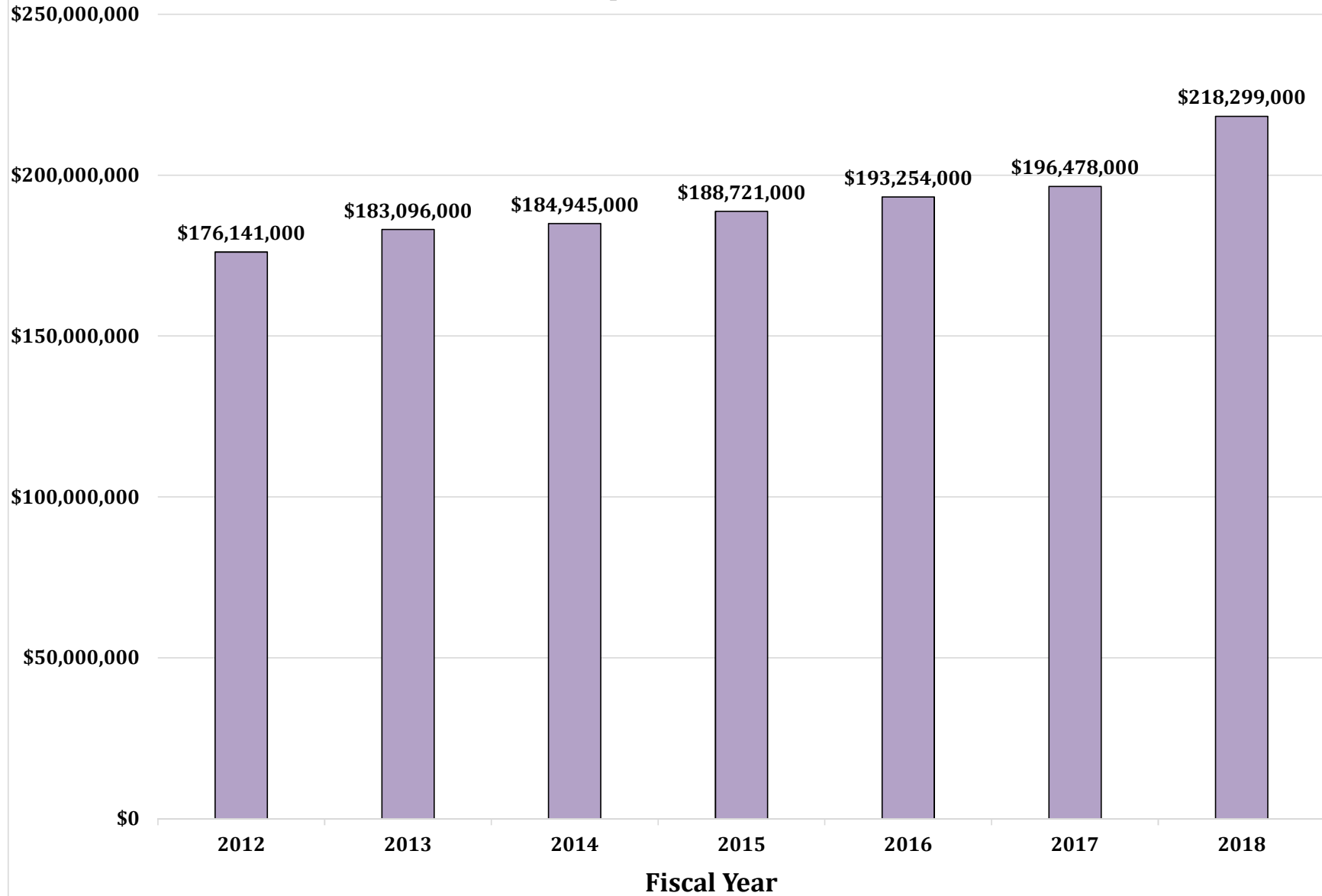
Total Dollars of Extramural Awards Received



**Kansas State University
Total Number of Extramural Awards Received**



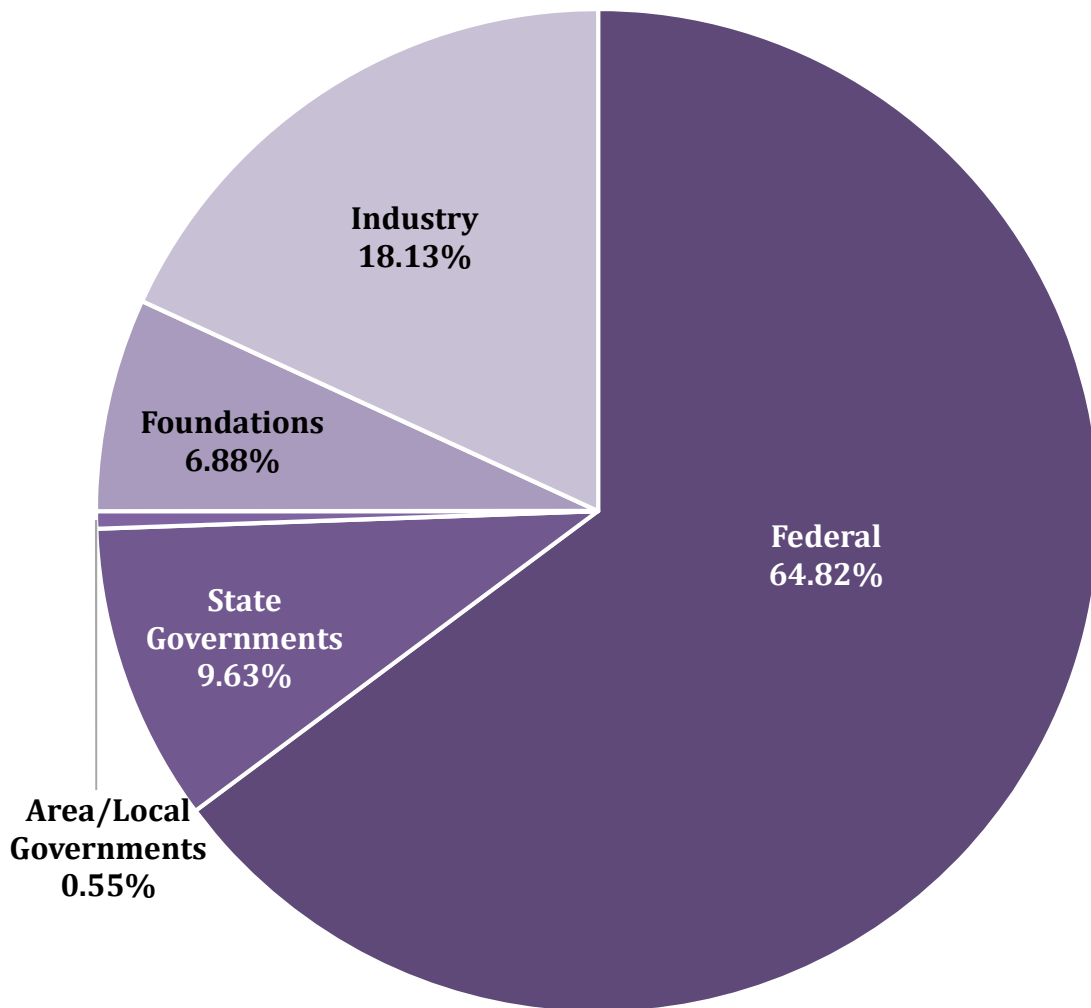
Kansas State University Expenditures



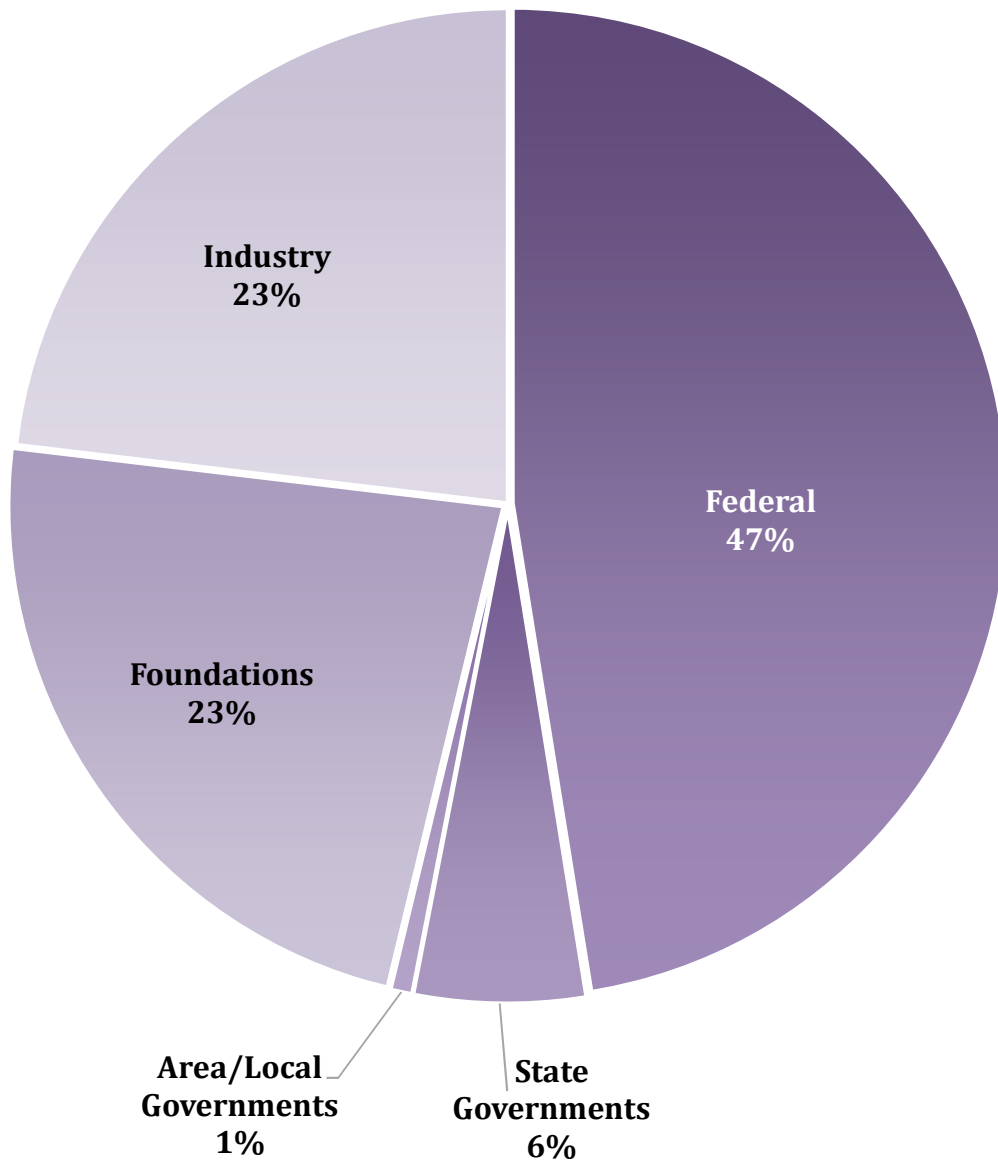
Kansas State University
Sources of Awards
Fiscal Year 2019

Source	Number of Awards	Dollar Value	Percentage
Government:			
Area/Local Governments	11	953,544	0.55%
State Governments	87	16,709,688	9.63%
Federal:			
Department of Agriculture	234	31,586,797	18.20%
Department of Defense	23	5,065,267	2.92%
Department of Education	14	2,728,123	1.57%
Department of Energy	73	9,394,503	5.41%
Department of Health and Human Services	137	18,099,052	10.43%
Department of Homeland Security	8	1,677,811	0.97%
Department of the Interior	14	1,489,986	0.86%
Department of Transportation	10	286,410	0.16%
Environmental Protection Agency	18	1,950,289	1.12%
National Aeronautics and Space Administration	9	204,726	0.12%
National Science Foundation	119	19,348,545	11.15%
US Agency for International Development	25	16,300,591	9.39%
Other Federal	53	4,378,153	2.52%
Private:			
Foundations	359	11,938,512	6.88%
Industry (Including Foreign)	359	31,474,085	18.13%
TOTAL	1553	173,586,081	100.00%

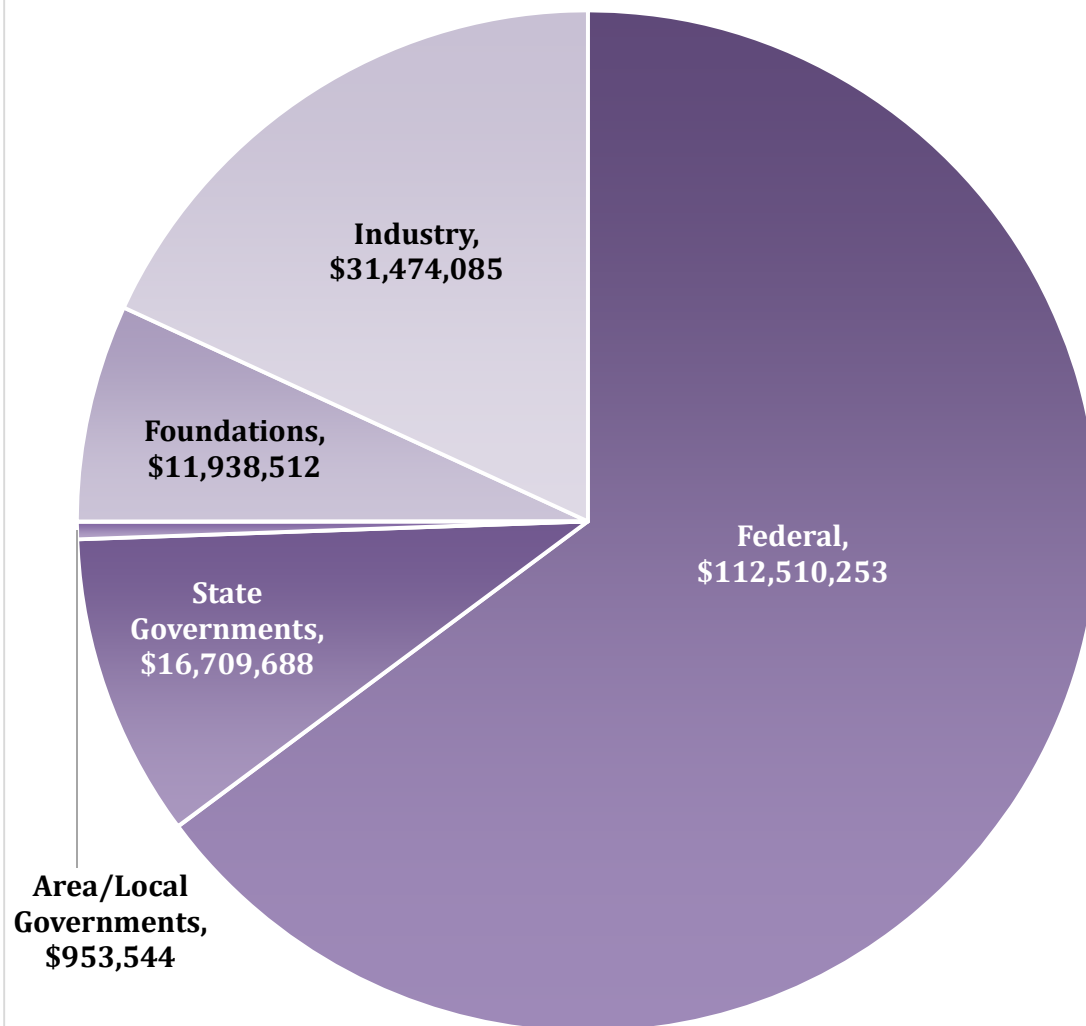
**FY2019 Percentage of Total
Dollar Amount of
Extramural Awards
by Source**



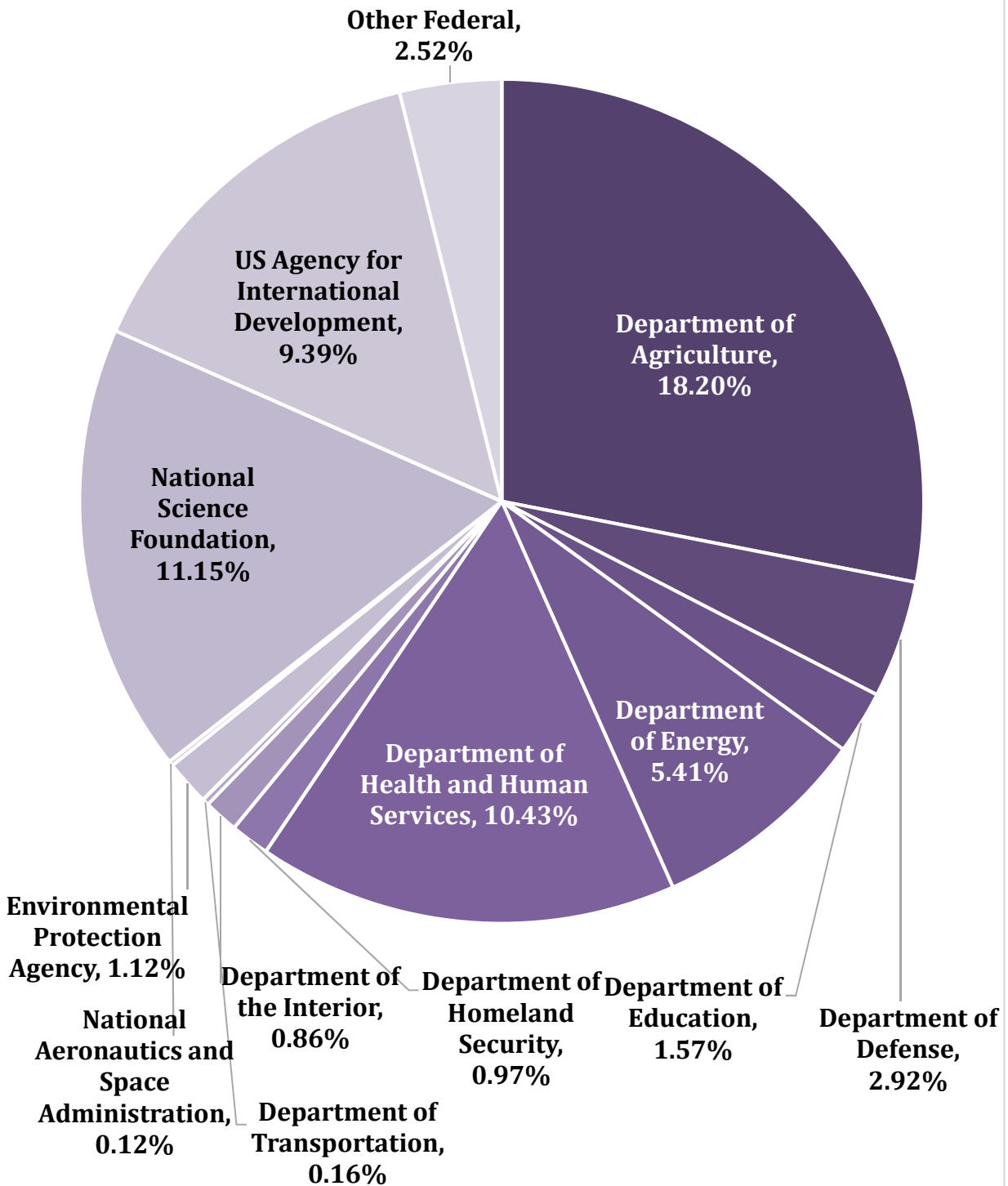
**FY2019 Percentage of Total
Number of
Extramural Awards
by Source**



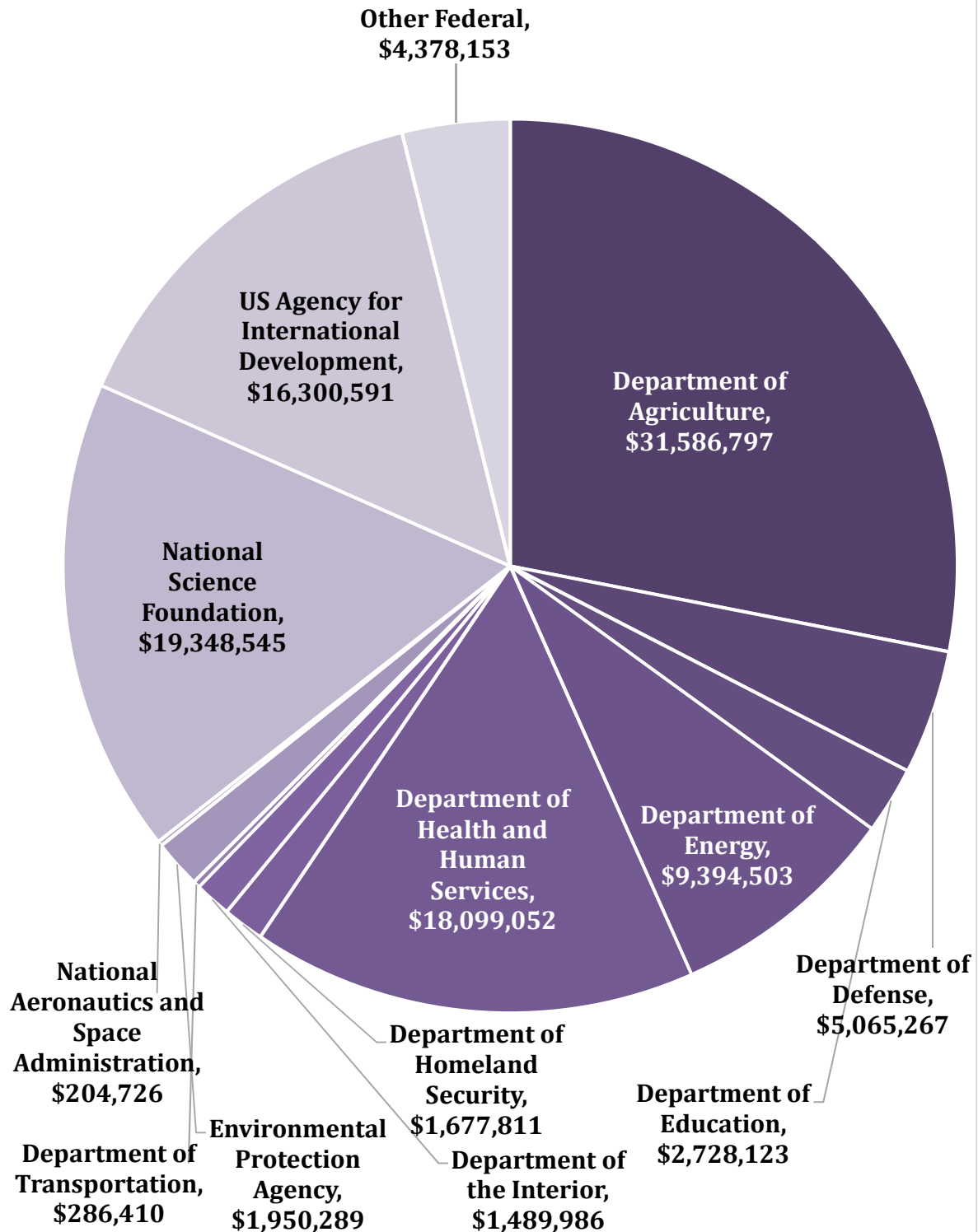
**FY2019 Extramural
Award Sources by
Dollar Amount**



FY2019 Extramural Award Federal Sources by Percentage



**FY2019 Extramural Award
Federal Sources by
Dollar Amount**



Distribution of New Awards Among
Colleges and Offices of the University
Fiscal Year 2019

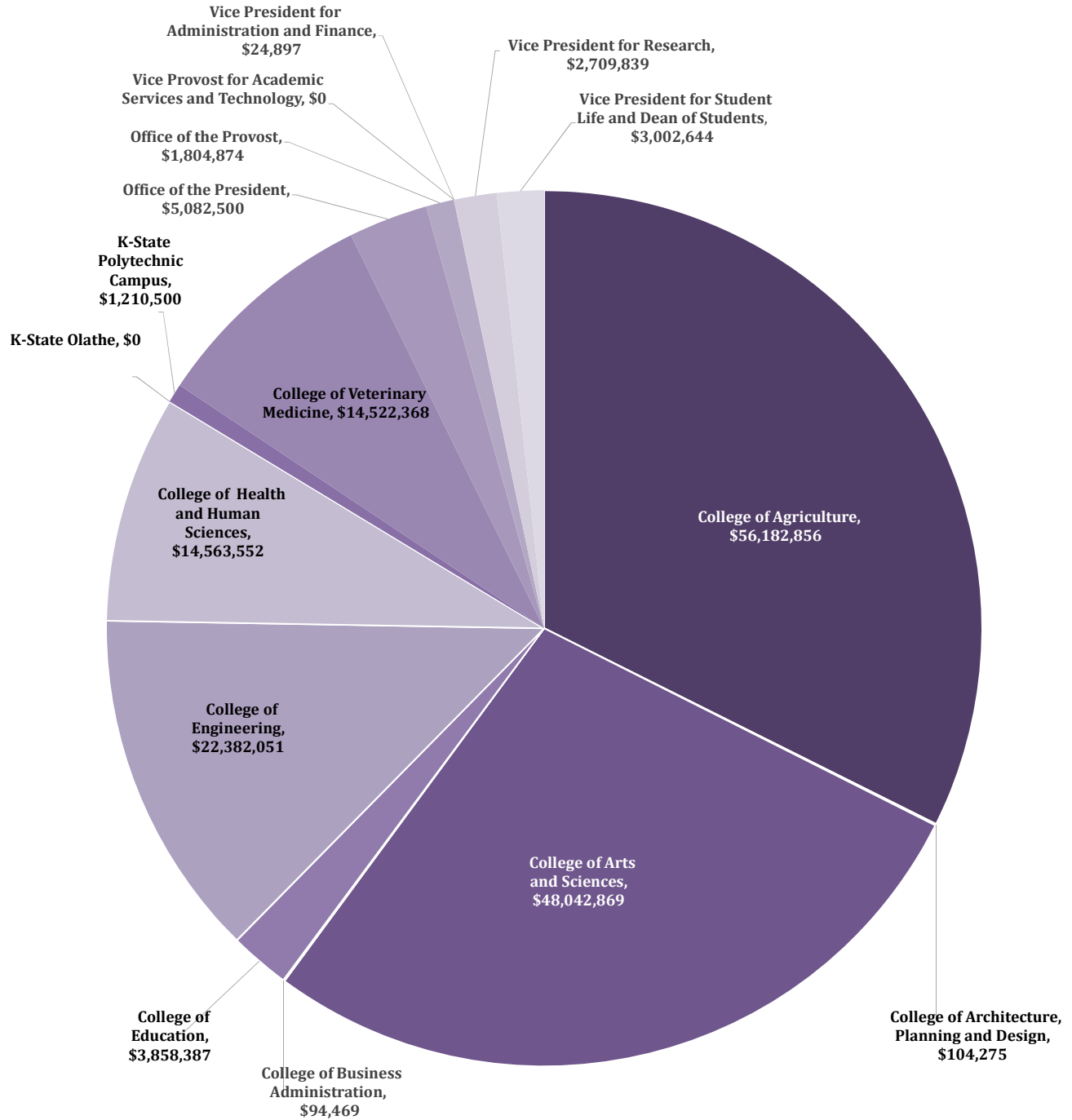
College/Office	Number of Awards	Dollar Value	Percentage
College of Agriculture	700	\$56,182,856 *	32.37%
College of Architecture, Planning and Design	10	\$104,275	0.06%
College of Arts and Sciences	212	\$48,042,869	27.68%
College of Business Administration	2	\$94,469	0.05%
College of Education	27	\$3,858,387	2.22%
College of Engineering	228	\$22,382,051	12.89%
College of Health and Human Sciences	61	\$14,563,552 **	8.39%
K-State Olathe	0	\$0	0.00%
K-State Polytechnic Campus	22	\$1,210,500	0.70%
College of Veterinary Medicine	226	\$14,522,368	8.37%
Office of the President	3	\$5,082,500	2.93%
Office of the Provost	20	\$1,804,874	1.04%
Vice Provost for Academic Services and Technology	0	\$0	0.00%
Vice President for Administration and Finance	1	\$24,897	0.01%
Vice President for Research	13	\$2,709,839	1.56%
Vice President for Student Life and Dean of Students	28	\$3,002,644	1.73%
UNIVERSITY TOTAL	1553	\$173,586,081	100.00%

*Includes Cooperative Extension Projects in College of Agriculture

**Includes Cooperative Extension Projects in College of Health and Human Sciences

NOTE: See 5 Year Summary of Extramural Support for Individual College Unit Details

FY2019 Extramural Award Dollars by College / Office



**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
<u>COLLEGE OF AGRICULTURE</u>					
Agricultural Economics	65	\$6,366,972	\$22,044,095	29	\$3,135,086
Agricultural Experiment Station	1	\$27,500	\$27,500	1	\$27,500
Agricultural Research Center-Hays	48	\$1,381,543	\$2,537,362	25	\$572,313
Agriculture and Natural Resources	0	\$0	\$0	0	\$0
Agronomy	224	\$10,326,337	\$27,003,526	103	\$7,614,570
Animal Sciences and Industry	302	\$6,447,762	\$10,800,571	204	\$5,417,847
Communication and Ag Education	9	\$178,197	\$876,474	4	\$193,716
Dean of Agriculture and Director of AES	59	\$7,812,828	\$18,689,765	39	\$15,691,918
Entomology	73	\$3,194,765	\$5,794,597	43	\$2,640,998
Food Science Institute	1	\$56,350	\$169,804	0	\$0
Grain Science and Industry	137	\$5,089,254	\$10,996,885	70	\$2,693,429
Horticulture and Natural Resources	80	\$1,810,700	\$5,594,275	40	\$1,736,881
International Agricultural Programs	0	\$0	\$0	0	\$0
Kansas Industrial Extension Services	0	\$0	\$0	0	\$0
KS Ctr for Agri & the Env./KS Water Resource Res. Inst.	9	\$184,509	\$954,594	6	\$209,910
Northwest Research Extension Center	10	\$346,558	\$427,583	6	\$380,508
Office of Academic Programs	1	\$15,000	\$15,000	1	\$15,000
Plant Biotechnology Center	3	\$55,913	\$56,433	3	\$99,040
Plant Pathology	115	\$4,834,857	\$14,020,566	66	\$8,794,392
Southeast Agricultural Research Center	7	\$65,270	\$104,419	2	\$18,107
Southwest Research Extension Center	23	\$327,205	\$1,005,775	13	\$281,339
Total Agriculture	1,167	\$48,521,520	\$121,119,224	655	\$49,522,554
<u>COLLEGE OF ARCHITECTURE, PLANNING & DESIGN</u>					
Architecture	1	\$25,000	\$25,000	1	\$52,000
Dean of Architecture, Planning and Design	0	\$0	\$0	0	\$0
Interior Architecture and Product Design	0	\$0	\$0	0	\$0
Landscape Architecture/Regional & Community Planning	14	\$505,226	\$687,119	9	\$52,275
Total Architecture, Planning and Design	15	\$530,226	\$712,119	10	\$104,275
<u>COLLEGE OF ARTS AND SCIENCES</u>					
American Ethnic Studies	0	\$0	\$0	0	\$0
Art	1	\$4,217	\$4,217	1	\$1,050
Biochemistry	48	\$4,821,991	\$16,122,295	31	\$3,748,794
Biology	92	\$10,501,149	\$26,147,727	61	\$7,331,654
Chapman Center	2	\$50,000	\$243,669	3	\$343,669
Chemistry	70	\$5,622,429	\$20,956,123	31	\$4,302,495
Communication Studies	4	\$124,060	\$375,247	1	\$146,105
Dean of Arts and Sciences	3	\$5,514	\$153,025	2	\$147,511
Economics	1	\$26,082	\$62,127	0	\$0
English	9	\$202,230	\$489,025	1	\$1,050
Geography	12	\$714,022	\$1,650,874	2	\$217,599
Geology	21	\$1,791,421	\$22,516,260	6	\$18,777,907
History	2	\$8,624	\$32,692	2	\$26,904
Mathematics	50	\$2,813,119	\$9,142,175	7	\$451,996
Modern Languages	1	\$11,194	\$11,194	1	\$11,194
Philosophy	8	\$133,219	\$284,411	3	\$254,568

**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
Physics	62	\$8,641,668	\$27,303,534	37	\$8,118,410
Political Science	5	\$195,686	\$320,284	2	\$26,582
Psychological Sciences	21	\$1,817,838	\$9,474,435	10	\$2,767,351
School of Journalism and Mass Communications	13	\$771,250	\$3,485,725	4	\$260,116
School of Music, Theatre, and Dance	3	\$437,433	\$670,751	1	\$15,950
Sociology, Anthropology and Social Work	19	\$1,234,414	\$2,810,389	3	\$783,836
Statistics	19	\$1,072,431	\$2,852,394	3	\$308,128
Gender, Women, and Sexuality Studies	0	\$0	\$0	0	\$0
Total Arts and Sciences	466	\$40,999,991	\$145,108,573	212	\$48,042,869
<u>COLLEGE OF BUSINESS ADMINISTRATION</u>					
Finance	0	\$0	\$0	0	\$0
Accounting	0	\$0	\$0	0	\$0
Dean of Business Administration	1	\$29,532	\$89,413	1	\$89,413
Management	1	\$36,257	\$158,271	1	\$5,056
Marketing	0	\$0	\$0	0	\$0
Total Business Administration	2	\$65,789	\$247,684	2	\$94,469
<u>COLLEGE OF EDUCATION</u>					
Curriculum and Instruction	34	\$3,293,540	\$14,975,342	8	\$849,953
Dean of Education	37	\$4,303,853	\$10,893,197	18	\$2,928,434
Educational Leadership	5	\$475,693	\$1,786,856	1	\$80,000
Elementary Education	0	\$0	\$0	0	\$0
Secondary Education	0	\$0	\$0	0	\$0
Special Education, Counseling and Student Affairs	4	\$539,013	\$2,078,857	0	\$0
Total Education	80	\$8,612,099	\$29,734,252	27	\$3,858,387
<u>COLLEGE OF ENGINEERING</u>					
Architectural Engineering and Construction Science	1	\$315,000	\$315,000	1	\$315,000
Biological and Agricultural Engineering	82	\$3,132,709	\$8,924,988	39	\$2,700,967
Center for Hazardous Substance Research	3	\$900,000	\$900,000	3	\$900,000
Chemical Engineering	39	\$5,172,459	\$16,995,368	9	\$1,015,087
Civil Engineering	53	\$6,302,064	\$11,132,334	29	\$2,391,618
Computer Science	85	\$7,138,352	\$19,997,957	18	\$1,554,753
Dean of Engineering	3	\$732,511	\$732,511	5	\$777,511
Electrical and Computer Engineering	109	\$9,415,281	\$21,976,415	23	\$1,780,706
Engineering Experiment Station	1	\$315,000	\$315,000	1	\$315,000
Industrial and Manufacturing Systems Engineering	40	\$2,904,858	\$7,918,307	7	\$464,596
Institute for Environmental Research	7	\$492,187	\$1,047,697	5	\$646,087
Kansas Industrial Extension Service	25	\$1,067,921	\$1,673,155	24	\$1,765,613
Mechanical and Nuclear Engineering	79	\$6,627,126	\$16,815,704	41	\$6,627,212
National Gas Machinery Laboratory	3	\$109,266	\$185,994	2	\$36,526
National Institute for Land Management and Training	0	\$0	\$0	0	\$0
Technology Development Institute	20	\$943,875	\$3,561,375	21	\$1,091,375
Total Engineering	550	\$45,568,609	\$112,491,805	228	\$22,382,051

**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
<u>COLLEGE OF HEALTH AND HUMAN SCIENCES</u>					
Apparel, Textiles, and Interior Design	6	\$386,476	\$663,731	3	\$157,166
Dean of Health and Human Sciences	8	\$160,099	\$1,814,613	9	\$3,127,167
Food, Nutrition, Dietetics and Health	49	\$1,589,355	\$4,876,329	21	\$928,313
Hospitality Management	5	\$77,840	\$471,950	3	\$300,365
Kinesiology	24	\$1,447,118	\$7,124,727	12	\$881,125
School of Family Studies and Human Services	18	\$4,440,157	\$9,327,363	12	\$7,163,108
Total Human Ecology	110	\$8,101,045	\$24,278,713	60	\$12,557,244
<u>K-STATE OLATHE</u>					
Innovation Campus	3	\$319,355	\$651,637	0	\$0
Total K-State Olathe	3	\$319,355	\$651,637	0	\$0
<u>K-STATE POLYTECHNIC CAMPUS</u>					
Academic Services	0	\$0	\$0	0	\$0
Applied Aviation Research Center	0	\$0	\$0	0	\$0
Arts, Science and Business	0	\$0	\$0	0	\$0
Aviation	0	\$0	\$0	0	\$0
Dean of Polytechnic Campus	3	\$47,673	\$72,673	2	\$747,000
Education and Outreach	0	\$0	\$0	0	\$0
Engineering Technology	0	\$0	\$0	0	\$0
Enrollment Management and Marketing Services	2	\$133,155	\$133,155	0	\$0
Fiscal Affairs	0	\$0	\$0	0	\$0
Flight Operations	0	\$0	\$0	0	\$0
Information Systems	2	\$7,500	\$22,500	0	\$0
Research and Engagement	23	\$486,658	\$877,106	19	\$462,500
School of Integrated Studies	1	\$1,000	\$1,000	1	\$1,000
Undergraduate Services	1	\$9,817	\$9,817	0	\$0
Total Technology and Aviation	32	\$685,803	\$1,116,251	22	\$1,210,500
<u>COLLEGE OF VETERINARY MEDICINE</u>					
Anatomy and Physiology	117	\$8,591,723	\$27,367,281	33	\$1,633,854
Clinical Sciences	74	\$1,063,098	\$2,838,337	23	\$500,871
Dean of Veterinary Medical Center	26	\$561,023	\$1,381,268	15	\$813,207
Diagnostic Medicine/Pathobiology	243	\$21,139,711	\$58,713,810	125	\$10,383,398
Veterinary Diagnostic Laboratory	55	\$2,531,451	\$4,070,306	28	\$1,176,900
Veterinary Health Center	4	\$30,915	\$42,973	2	\$14,138
Total Veterinary Medical Center	519	\$33,917,921	\$94,413,975	226	\$14,522,368
<u>COOPERATIVE EXTENSION</u>					
Cooperative Extension - Agriculture					
Agricultural Economics	0	\$0	\$0	0	\$0

**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
Agriculture and Natural Resources	7	\$257,354	\$1,721,673	4	\$636,050
Agronomy	0	\$0	\$0	0	\$0
Biological and Agricultural Engineering	0	\$0	\$0	0	\$0
Extension Communications	0	\$0	\$0	0	\$0
County Agents	0	\$0	\$0	0	\$0
County Agents-Metropolitan Sector	2	\$45,094	\$176,971	2	\$90,720
County Agents-Northeast Sector	0	\$0	\$0	0	\$0
County Agents-Northwest Sector	0	\$0	\$0	0	\$0
Director of Cooperative Extension	13	\$819,250	\$1,653,700	6	\$693,340
Four-H Youth Development	10	\$369,575	\$1,431,380	2	\$11,900
Kansas Forest Service	6	\$1,454,664	\$3,307,565	5	\$4,436,732
KS Ctr for Agri & the Env./KS Water Resource Res. Inst.	0	\$0	\$0	0	\$0
Northeast Area Office	7	\$117,236	\$165,628	5	\$45,518
Northeast/Metro Area Office	0	\$0	\$0	0	\$0
Northwest Area Office	21	\$185,778	\$395,790	12	\$201,562
Southeast Area Office	2	\$125,852	\$460,162	0	\$0
Southwest Area Office	15	\$162,135	\$432,384	9	\$544,480
Subtotal Cooperative Ext - Agriculture	83	\$3,536,938	\$9,745,253	45	\$6,660,302
Cooperative Extension - Human Ecology					
Family and Consumer Sciences	3	\$2,051,997	\$2,171,322	1	\$2,006,308
Human Nutrition	0	\$0	\$0	0	\$0
Nutrition Program	0	\$0	\$0	0	\$0
Subtotal Cooperative Ext - Human Ecology	3	\$2,051,997	\$2,171,322	1	\$2,006,308
Total Cooperative Extension	86	\$5,588,935	\$11,916,575	46	\$8,666,610
<u>OFFICE OF THE PRESIDENT</u>					
Auditorium Performances	0	\$0	\$0	0	\$0
Beach Art Museum	1	\$161,018	\$161,018	1	\$60,000
Intercollegiate Athletics - Local	0	\$0	\$0	0	\$0
Intercollegiate Athletics - State	0	\$0	\$0	0	\$0
Office of the President	1	\$5,000,000	\$5,000,000	1	\$5,000,000
Vice President for Communications and Marketing	1	\$22,500	\$22,500	1	\$22,500
Total Office of the President	3	\$5,183,518	\$5,183,518	3	\$5,082,500

**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
<u>OFFICE OF THE PROVOST</u>					
Assessment and Program Review	0	\$0	\$0	0	\$0
Center for Engagement and Community Development	5	\$122,487	\$207,521	0	\$0
Center for the Advancement of Teaching & Learning	0	\$0	\$0	0	\$0
Dean of Global Campus	1	\$40,000	\$40,000	1	\$40,000
Dean of Graduate School	4	\$171,927	\$612,407	4	\$830,361
Information Security & Compliance	0	\$0	\$0	0	\$0
Information Technology Assistance Center	0	\$0	\$0	0	\$0
International Programs	3	\$340,202	\$340,202	4	\$365,944
Kansas Center for Rural Initiatives	0	\$0	\$0	0	\$0
Library	6	\$1,345,809	\$1,977,873	0	\$0
Office of Diversity and Dual Career Development	0	\$0	\$0	0	\$0
Office of the Provost	2	\$181,526	\$181,526	3	\$183,585
School of Leadership Studies	6	\$231,417	\$251,687	7	\$358,316
Vice Provost for Undergraduate Studies	1	\$26,668	\$26,668	1	\$26,668
Total Office of the Provost	28	\$2,460,036	\$3,637,884	20	\$1,804,874
<u>VICE PROVOST FOR ACADEMIC SERVICES AND TECHNOLOGY</u>					
Information Technology Assistance Center	0	\$0	\$0	0	\$0
Total Vice Provost for Academic Services and Technology	0	\$0	\$0	0	\$0
<u>OFFICE OF THE VICE PRESIDENT FOR ADMINISTRATION AND FINANCE</u>					
Budget Office	0	\$0	\$0	0	\$0
Facilities Refuse and Recycling	3	\$16,836	\$16,836	0	\$0
KSU Police Department	0	\$0	\$0	0	\$0
Public Safety	0	\$0	\$0	0	\$0
Vice President for Administration and Finance	1	\$24,897	\$24,897	1	\$24,897
Total Administration and Finance	4	\$41,733	\$41,733	1	\$24,897
<u>OFFICE OF THE VICE PRESIDENT FOR RESEARCH</u>					
Biosecurity Research Institute	6	\$627,715	\$2,120,212	1	\$2,500
Comparative Medicine	0	\$0	\$0	0	\$0
National Agricultural Biosecurity Center	4	\$585,524	\$622,796	1	\$400,000
Office of the Vice President for Research	3	\$382,028	\$1,791,157	3	\$1,791,157
Office of Research Development	4	\$86,965	\$404,531	4	\$178,044
University Research Compliance Office	0	\$0	\$0	0	\$0
Vice President Biotech Laboratory	1	\$6,001	\$6,001	2	\$147,515
Vice President Electronics Design Laboratory	1	\$45,000	\$45,000	2	\$190,623
Total Vice President for Research	19	\$1,733,233	\$4,989,697	13	\$2,709,839

**FY2019 Cumulative
Proposal/Award Summary
07/01/18 - 06/30/19**

Department/College	Proposals			Awards	
	**** Submitted	*Period	**Total	**** Received	***Total
<u>OFFICE OF THE VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS</u>					
Department of Housing	1	\$16,273	\$48,083	0	\$0
Diversity & Multicultural	1	\$475,596	\$475,596	1	\$237,979
Educational and Personal Development	9	\$32,893	\$1,286,893	9	\$1,583,763
KSU Child Development Center, Inc.	4	\$43,932	\$222,602	3	\$179,170
New Student Services	2	\$17,500	\$56,181	3	\$77,181
Office of Student Life	2	\$297,392	\$304,392	2	\$287,791
Student Financial Assistance	1	\$1,848	\$1,848	1	\$1,848
Student Health	4	\$184,396	\$184,396	2	\$15,000
University Counseling Services	0	\$0	\$0	0	\$0
Vice President for Student Life	5	\$178,025	\$591,622	7	\$619,912
Total Student Life and Dean of Students	29	\$1,247,855	\$3,171,613	28	\$3,002,644
University Totals	**** 3113	\$203,577,668	\$558,815,253	**** 1553	\$173,586,081

PROPOSALS

*Period = Initial budget period amount requested

**Total = Total funds requested for entire project period

AWARDS

***Total = Reflects the sum total of all awards actually received during the specified reporting period.

NOTE: Previous year awards received (i.e. in the case of incrementally funded awards) are not included if received in a previous award/reporting period. Only those award amounts received through specific award transactions processed during the specified reporting period are included. *(All totals are cumulative throughout the fiscal year.)*

****These numbers include the collaborative count for proposals and awards and reflect the contributions of and credit granted to all project personnel based on the E% indicated on the Sponsored Programs Transmittal Sheet. During FY 2015 a new credit/reporting allocation capture strategy, referred to as "E%" on the Transmittal Sheet, was developed. The deployment of this more uniform credit allocation method streamlines and makes it easier for campus units to consistently report collaborative activities, that may not be reflected in previous year's totals

KANSAS STATE UNIVERSITY
SUMMARY OF EXTRAMURAL SUPPORT

FY2019

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
AGRICULTURE					
Dean of Agriculture & Director of AES	\$7,028,301	\$7,936,931	\$12,755,031	\$9,831,654	\$15,691,918
Agricultural Economics	\$4,499,667	\$4,987,123	\$2,895,199	\$3,536,802	\$3,135,086
Agronomy	\$4,282,708	\$7,460,995	\$7,117,549	\$7,641,064	\$7,614,570
Animal Sciences & Industry	\$2,330,114	\$3,124,814	\$3,333,192	\$3,317,235	\$5,417,847
Communication and Ag Education	\$273,151	\$204,843	\$491,995	\$119,591	\$193,716
Entomology	\$1,926,270	\$2,099,381	\$1,310,348	\$2,574,329	\$2,640,998
Food Science Institute	\$417,494	\$262,267	\$2,762	\$0	\$0
Grain Science & Industry	\$2,999,474	\$4,755,228	\$3,106,964	\$2,238,255	\$2,693,429
Horticulture and Natural Resources	\$528,216	\$1,153,206	\$1,557,661	\$2,545,243	\$1,736,881
International Agriculture Programs	\$135,843	\$2,798	\$71,185	\$0	\$0
KS Ctr for Agri & the Env/KS Water Res. Res. Inst.	\$2,471,533	\$3,172,778	\$2,979,332	\$1,027,053	\$209,910
Office of Academic Programs	\$160,203	\$75,427	\$103,827	\$316,708	\$15,000
Plant Biotechnology Center	\$73,902	\$62,887	\$100,694	\$73,393	\$99,040
Plant Pathology	\$8,040,595	\$7,442,382	\$7,904,457	\$5,160,337	\$8,794,392
Agricultural Experiment Station	\$0	\$2,200,000	\$400,000	\$105,500	\$27,500
Northwest Research Extension Center	\$106,297	\$98,224	\$182,942	\$171,284	\$380,508
Agricultural Research Center-Hays	\$520,094	\$905,459	\$629,261	\$626,673	\$572,313
Southeast Agricultural Res. Ctr.	\$0	\$48,065	\$30,946	\$96,679	\$18,107
Southwest Research Extension Ctr.	\$572,365	\$664,725	\$835,659	\$413,988	\$281,339
Extension Director	\$273,167	\$565,629	\$1,589,079	\$862,193	\$693,340
Extension Agricultural Economics	\$0	\$0	\$0	\$0	\$0
Extension Agronomy	\$0	\$10,837	\$0	\$0	\$0
Extension Animal Sciences & Industry	\$0	\$0	\$0	\$0	\$0
Extension Biological & Agricultural Engineering	\$0	\$0	\$0	\$0	\$0
Extension Communications	\$0	\$0	\$0	\$0	\$0
Extension Community Health Institute	\$0	\$0	\$0	\$0	\$0
Extension County Agents - Metropolitan Sector	\$0	\$6,600	\$1,600	\$1,600	\$90,720
Extension County Agents - Northeast Sector	\$0	\$0	\$0	\$6,250	\$0
Extension Entomology	\$0	\$0	\$0	\$0	\$0
Extension Four-H Youth Development	\$109,905	\$20,000	\$57,570	\$104,945	\$11,900
Extension Grain Science and Industry	\$0	\$0	\$0	\$0	\$0
Extension Hort., Forestry & Rec. Res.	\$0	\$0	\$0	\$0	\$0
Extension KS Ctr. for Agriculture & the Environ.	\$0	\$0	\$0	\$0	\$0
Extension Kansas Forest Service	\$20,287,123	\$460,444	\$6,856,782	\$1,450,129	\$4,436,732
Extension Kansas Water Resource Res. Inst.	\$0	\$0	\$0	\$0	\$0
Extension Northeast Area Office	\$13,900	\$16,037	\$16,347	\$20,746	\$45,518
Extension Northwest Area Office	\$39,465	\$76,424	\$95,871	\$73,654	\$201,562
Extension Plant Pathology	\$0	\$0	\$0	\$0	\$0
Extension Agriculture and Natural Resources	\$997,142	\$469,326	\$635,550	\$375,773	\$636,050
Extension South Central Area Office	\$0	\$0	\$0	\$0	\$0
Extension Southeast Area Office	\$33,485	\$69,067	\$50,558	\$58,083	\$0
Extension Southwest Area Office	\$120,868	\$320,401	\$200,023	\$567,640	\$544,480
College Totals	<u>\$58,241,282</u>	<u>\$48,672,298</u>	<u>\$55,312,384</u>	<u>\$43,316,802</u>	<u>\$56,182,856</u>
ARCHITECTURE, PLANNING AND DESIGN					
Dean of Architecture, Planning & Design	\$0	\$0	\$5,480	\$0	\$0
Architecture	\$28,500	\$0	\$0	\$0	\$52,000
Interior Architecture and Product Design	\$0	\$3,745	\$0	\$0	\$0
Landscape Arch/Regional & Comm Plan	<u>\$7,210</u>	<u>\$31,976</u>	<u>\$192,061</u>	<u>\$35,995</u>	<u>\$52,275</u>
College Totals	<u>\$35,710</u>	<u>\$35,721</u>	<u>\$197,541</u>	<u>\$35,995</u>	<u>\$104,275</u>

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
ARTS AND SCIENCES					
Dean of Arts & Sciences	\$150,000	\$150,000	\$150,000	\$80,000	\$147,511
Art	\$0	\$0	\$15,000	\$0	\$1,050
Biochemistry	\$2,737,009	\$2,616,972	\$2,611,851	\$1,986,050	\$3,748,794
Biology	\$11,506,539	\$6,835,361	\$14,149,320	\$8,949,158	\$7,331,654
Chapman Center	\$0	\$0	\$0	\$0	\$343,669
Chemistry	\$1,530,901	\$1,680,835	\$3,183,343	\$5,444,338	\$4,302,495
Communication Studies	\$0	\$65,740	\$59,000	\$25,740	\$146,105
Economics	\$0	\$50,000	\$40,850	\$0	\$0
English	\$9,982	\$0	\$6,000	\$0	\$1,050
Geography	\$323,397	\$302,448	\$155,190	\$425,977	\$217,599
Geology	\$292,622	\$102,033	\$4,880	\$18,366,918	\$18,777,907
History	\$148,000	\$160,800	\$205,000	\$164,540	\$26,904
Mathematics	\$383,781	\$673,452	\$1,084,184	\$691,763	\$451,996
Modern Languages	\$0	\$0	\$0	\$0	\$11,194
Music	\$17,355	\$0	\$0	\$0	\$0 *
Philosophy	\$0	\$0	\$0	\$37,694	\$254,568
Physics	\$8,741,477	\$5,092,355	\$4,327,675	\$10,083,461	\$8,118,410
Political Science	\$0	\$0	\$9,650	\$120,644	\$26,582
Psychological Sciences	\$688,600	\$684,705	\$361,113	\$4,564,928	\$2,767,351
School of Journalism & Mass Communications	\$152,992	\$155,435	\$164,561	\$67,963	\$260,116
School of Music, Theatre, and Dance	\$0	\$15,950	\$15,950	\$34,171	\$15,950 *
Sociology, Anthropology, & Social Work	\$362,336	\$442,722	\$621,102	\$201,772	\$783,836
Statistics	\$87,141	\$5,000	\$78,838	\$33,548	\$308,128
Gender, Women, and Sexuality Studies	\$0	\$0	\$0	\$0	\$0
College Totals	<u>\$27,132,132</u>	<u>\$19,033,808</u>	<u>\$27,243,507</u>	<u>\$51,278,665</u>	<u>\$48,042,869</u>
BUSINESS ADMINISTRATION					
Dean of Business Administration	\$0	\$0	\$0	\$0	\$89,413
Accounting	\$0	\$0	\$0	\$0	\$0
Marketing	\$21,780	\$0	\$0	\$0	\$0
Management	\$0	\$0	\$47,500	\$0	\$5,056
College Totals	<u>\$21,780</u>	<u>\$0</u>	<u>\$47,500</u>	<u>\$0</u>	<u>\$94,469</u>
EDUCATION					
Curriculum and Instruction	\$130,268	\$560,223	\$882,857	\$560,126	\$849,953
Dean of Education	\$10,151,287	\$3,983,009	\$2,315,089	\$1,840,947	\$2,928,434
Educational Leadership	\$0	\$20,964	\$263,700	\$96,279	\$80,000
Elementary Education	\$0	\$0	\$0	\$0	\$0
Secondary Education	\$0	\$0	\$0	\$0	\$0
Special Education, Counseling and Student Affairs	\$27,020	\$0	\$223	\$3,400	\$0
College Totals	<u>\$10,308,575</u>	<u>\$4,564,196</u>	<u>\$3,461,869</u>	<u>\$2,500,752</u>	<u>\$3,858,387</u>
ENGINEERING					
Dean of Engineering	\$75,000	\$1,405,000	\$75,000	\$800,000	\$777,511
Architectural Engg & Construction Sci	\$0	\$630,000	\$0	\$315,000	\$315,000
Biological & Agricultural Engineering	\$595,754	\$1,741,129	\$1,808,356	\$2,332,473	\$2,700,967
Center for Hazardous Substance Research	\$48,000	\$650,460	\$1,724,852	\$1,637,394	\$900,000
Chemical Engineering	\$1,084,436	\$1,178,431	\$813,050	\$1,161,470	\$1,015,087
Civil Engineering	\$1,630,957	\$2,674,909	\$1,040,616	\$1,967,239	\$2,391,618
Computer Science	\$1,128,108	\$2,933,327	\$2,656,257	\$3,803,879	\$1,554,753

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
Electrical & Computer Engineering	\$1,125,422	\$2,348,088	\$1,065,833	\$1,924,892	\$1,780,706
Engineering Experiment Station	\$0	\$630,000	\$0	\$315,000	\$315,000
Industrial & Manufacturing Sys Engg	\$261,640	\$1,582,484	\$560,033	\$815,058	\$464,596
Institute for Environmental Research	\$397,738	\$486,087	\$525,072	\$610,883	\$646,087
Kansas Industrial Extension Service	\$982,346	\$1,198,158	\$1,588,371	\$1,493,626	\$1,765,613
Mechanical and Nuclear Engineering	\$3,694,879	\$5,303,479	\$4,991,527	\$4,601,656	\$6,627,212
National Gas Machinery Laboratory	\$0	\$50,146	\$0	\$50,000	\$36,526
Nat'l Institute for Land Mgmt & Training	\$0	\$0	\$0	\$0	\$0
Technology Development Institute	<u>\$1,352,989</u>	<u>\$454,715</u>	<u>\$856,750</u>	<u>\$867,538</u>	<u>\$1,091,375</u> *
College Totals	\$12,377,269	\$23,266,413	\$17,705,717	\$22,696,108	\$22,382,051

HEALTH AND HUMAN SCIENCES

Dean of Health and Human Sciences	\$408,764	\$746,412	\$1,536,171	\$1,380,308	\$3,127,167
Apparel, Textiles & Interior Design	\$51,190	\$115,702	\$60,546	\$96,592	\$157,166
Food, Nutrition, Dietetics and Health	\$1,287,316	\$3,381,174	\$2,452,835	\$1,015,422	\$928,313
Hospitality Management	\$648,372	\$865,776	\$226,236	\$282,909	\$300,365
Kinesiology	\$1,423,210	\$697,233	\$688,578	\$1,315,162	\$881,125
School of Family Studies & Human Services	\$8,292,408	\$6,700,747	\$5,556,125	\$6,594,965	\$7,163,108
Extension Apparel, Textiles & Interior Design	\$0	\$0	\$0	\$0	\$0
Extension Family & Consumer Sciences	\$2,547,558	\$0	\$2,006,754	\$1,998,130	\$2,006,308
Extension Human Nutrition	\$0	\$0	\$0	\$0	\$0
Extension Nutrition Program	\$0	\$0	\$0	\$0	\$0
Ext. Family Studies & Human Services	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
College Totals	\$14,658,818	\$12,507,044	\$12,527,245	\$12,683,488	\$14,563,552

K-STATE OLATHE

Innovation Campus	<u>\$0</u>	<u>\$6,700</u>	<u>\$43,700</u>	<u>\$0</u>	<u>\$0</u>
College Totals	\$0	\$6,700	\$43,700	\$0	\$0

K-STATE POLYTECHNIC CAMPUS

Dean of Polytechnic Campus	\$0	\$342,269	\$0	\$430,240	\$747,000
Academic Services	\$0	\$0	\$0	\$0	\$0
College Advancement	\$0	\$0	\$0	\$0	\$0
Applied Aviation Research Center	\$215,808	\$554,280	\$174,821	\$0	\$0
Arts, Science and Business	\$68,274	\$0	\$0	\$0	\$0
Aviation	\$0	\$0	\$0	\$0	\$0
Education and Outreach	\$0	\$0	\$0	\$11,250	\$0
Engineering Technology	\$0	\$0	\$0	\$0	\$0
Flight Operations	\$0	\$0	\$0	\$12,500	\$0
Information Systems	\$0	\$0	\$0	\$166,468	\$0
Research and Engagement	\$0	\$0	\$0	\$30,053	\$462,500
School of Integrated Studies	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$1,000</u>
College Totals	\$284,082	\$896,549	\$174,821	\$650,511	\$1,210,500

VETERINARY MEDICINE

Dean of Veterinary Medicine	\$996,018	\$486,947	\$189,828	\$1,059,849	\$813,207
Anatomy & Physiology	\$986,331	\$2,083,780	\$1,729,199	\$2,086,533	\$1,633,854
Clinical Sciences	\$651,561	\$339,520	\$604,061	\$652,856	\$500,871
Diagnostic Medicine/Pathobiology	\$8,156,890	\$9,069,125	\$8,272,443	\$11,364,229	\$10,383,398
Veterinary Diagnostic Laboratory	\$271,401	\$323,865	\$750,943	\$926,877	\$1,176,900
Veterinary Health Center	<u>\$16,950</u>	<u>\$28,034</u>	<u>\$20,028</u>	<u>\$11,146</u>	<u>\$14,138</u>
College Totals	\$11,079,151	\$12,331,271	\$11,566,502	\$16,101,490	\$14,522,368

PRESIDENT

Beach Art Museum	\$13,000	\$0	\$0	\$0	\$60,000
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	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
McCain Auditorium	\$0	\$0	\$0	\$0	\$0
Intercollegiate Athletics - Local	\$0	\$0	\$0	\$3,300	\$0
Intercollegiate Athletics - State	\$0	\$0	\$433	\$0	\$0
Vice President for Communications and Marketing	\$23,000	\$22,500	\$22,500	\$23,000	\$22,500
Office of the President	\$0	\$0	\$5,000,000	\$5,000,000	\$5,000,000
Totals	<u>\$36,000</u>	<u>\$22,500</u>	<u>\$5,022,933</u>	<u>\$5,026,300</u>	<u>\$5,082,500</u>

PROVOST

Office of the Provost	\$162,534	\$133,380	\$222,014	\$31,059	\$183,585
Assessment & Program Review	\$0	\$0	\$0	\$0	\$0
Center for Engagement, Community Development	\$33,660	\$416,123	\$183,821	\$920,044	\$0
Dean of Global Campus	\$0	\$0	\$55,200	\$0	\$40,000
Dean of the Graduate School	\$0	\$584,955	\$686,726	\$722,753	\$830,361
Enterprise Server Technologies	\$0	\$0	\$0	\$0	\$0
Information Security & Compliance	\$3,200	\$0	\$0	\$0	\$0
Information Systems	\$0	\$0	\$0	\$0	\$0
Information Technology Assistance Center	\$0	\$0	\$0	\$0	\$0
International Programs	\$0	\$48,851	\$0	\$156,499	\$365,944
Kansas Center for Rural Initiatives	\$0	\$0	\$0	\$0	\$0
Library	\$0	\$22,169	\$13,279	\$0	\$0
Network and Telecommunications Services	\$0	\$0	\$0	\$0	\$0
Office of Diversity and Dual Career Dev.	\$257,299	\$108,085	\$424,905	\$0	\$0
Office of Mediated Education	\$0	\$0	\$0	\$0	\$0
Planning and Analysis	\$0	\$0	\$0	\$0	\$0
Regents Educational Communications Ctr.	\$0	\$0	\$0	\$0	\$0
School of Leadership Studies	\$54,080	\$146,248	\$158,000	\$296,767	\$358,316
Vice Provost for Undergraduate Studies	\$0	\$0	\$87,620	\$26,668	\$26,668
Totals	<u>\$510,773</u>	<u>\$1,459,811</u>	<u>\$1,831,565</u>	<u>\$2,153,791</u>	<u>\$1,804,874</u>

V. P. ADMINISTRATION AND FINANCE

Vice President for Administration and Finance	\$0	\$0	\$0	\$0	\$24,897
Budget Office	\$0	\$0	\$0	\$0	\$0
Facilities Refuse and Recycling	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$3,750</u>	<u>\$0</u>
KSU Police Department	\$0	\$19,605	\$9,878	\$2,000	\$0
Public Safety	\$0	\$0	\$0	\$0	\$0
Physical Facilities	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Totals	<u>\$0</u>	<u>\$19,605</u>	<u>\$9,878</u>	<u>\$5,750</u>	<u>\$24,897</u>

V. P. INSTITUTIONAL ADVANCEMENT

Department of Housing	\$0	\$0	\$0	\$0	\$0
Educational & Personal Development	\$0	\$0	\$0	\$0	\$0
KSU Child Development Center	\$0	\$0	\$0	\$0	\$0
Office of Diversity & Dual Career Dev.	\$0	\$0	\$0	\$0	\$0
University Counseling Services	\$0	\$0	\$0	\$0	\$0
Vice President for Institutional Advancement	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Totals	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>
VICE PRESIDENT FOR RESEARCH					
Vice President for Research	\$152,333	\$10,000	\$1,000,000	\$960,000	\$1,791,157
Biosecurity Research Institute	\$499,995	\$599,562	\$113,182	\$0	\$2,500
National Agricultural Biosecurity Center	\$199,041	\$3,128,243	\$473,694	\$559,585	\$400,000
Office of Research Development	\$0	\$0	\$0	\$44,900	\$178,044
University Research Compliance Office	\$0	\$13,200	\$16,500	\$0	\$0
Biotechnology Laboratory	\$0	\$141,199	\$143,937	\$122,065	\$147,515
Electronics Design Lab	\$192,706	\$669,553	\$320,445	\$152,792	\$190,623
Totals	<u>\$1,044,075</u>	<u>\$4,561,757</u>	<u>\$2,067,758</u>	<u>\$1,839,342</u>	<u>\$2,709,839</u>
V.P. FOR STUDENT LIFE AND DEAN OF STUDENTS					
Vice President for Student Life	\$26,000	\$54,500	\$302,590	\$873,793	\$619,912
Department of Housing	\$0	\$0	\$0	\$0	\$0
Diversity & Multicultural	\$0	\$0	\$0	\$7,623	\$237,979
Educational & Personal Development	\$1,267,874	\$772,717	\$1,306,959	\$817,508	\$1,583,763
KSU Child Development Center	\$480,285	\$862,307	\$145,339	\$313,360	\$179,170
New Student Services	\$51,351	\$56,351	\$47,650	\$20,525	\$77,181
Office of Diversity & Dual Career Dev.	\$0	\$0	\$0	\$0	\$0
Office of Student Life	\$0	\$70,263	\$268,438	\$260,225	\$287,791
Student Financial Assistance	\$0	\$0	\$0	\$969,534	\$1,848
Student Health	\$0	\$0	\$0	\$25,000	\$15,000
University Counseling Services	\$34,713	\$40,321	\$32,826	\$0	\$0
Totals	<u>\$1,860,223</u>	<u>\$1,856,459</u>	<u>\$2,103,802</u>	<u>\$3,287,568</u>	<u>\$3,002,644</u>
UNIVERSITY TOTALS	\$137,589,870	\$129,234,132	\$139,316,722	\$161,576,562	\$173,586,081

*Music is now Included with School of Music, Theatre, and Dance.

**Previously reported under Advanced Manufacturing Institute

During FY 2015 a new credit/reporting allocation capture strategy, referred to as "E%" on the Sponsored Project Transmittal Sheet, was developed. The deployment of this more uniform allocation method streamlines and makes it easier for campus units to consistently report collaborative activities, that may not be necessarily reflected in previous year's totals.

EXTRAMURAL AWARDS

Fiscal Year 2019 Cumulative (July 1, 2018 – June 30, 2019)

COLLEGE OF AGRICULTURE

AGRICULTURAL ECONOMICS

Amanor-Boadu, Vincent R., Ross, Kara, Shanoyan, Aleksan, and Zereyesus, Yacob, US Department of Agriculture, \$739,639, "METSS Ghana Implementation (Sustaining Growth Through Effective Management and Collaboration)."

Amanor-Boadu, Vincent R., Ross, Kara, Shanoyan, Aleksan, and Zereyesus, Yacob, US Department of Agriculture, \$967,813, "Monitoring, Evaluation and Analytical Support Services."

Bergtold, Jason S., and Tack, Jesse B., US Department of Agriculture, \$50,843, "Producer Driven Adaptation to Extreme Weather and Climate Change: Examining Crop Management and Marketing Adaption Strategies (Noah Miller)."

Briggeman, Brian C., Kansas Cooperative Council, \$11,000, "Developing a Cooperative Game."

Featherstone, Allen M., and Tsoodle, Leah J., Kansas Department of Revenue, "Modification of Agreement."

Featherstone, Allen M., Bigham, Kari A. (Biological and Agricultural Engineering), and **Reid, Roberta M.**, US Department of Agriculture, "Loss and Costs of Streambanks with and without Riparian Forest Buffers."

Golden, Bill B., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J.** (Horticulture and Natural Resources), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D.** (Horticulture and Natural Resources), **Hoyle, Jared** (Horticulture and Natural Resources), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C.** (Horticulture and Natural Resources), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Golden, Bill B., and Devlin, Daniel L. (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), Kansas Water Office, "Monitoring the Impacts of Sheridan County 6 Local Enhanced Management Area."

Golden, Bill B., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$37,947, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Griffin, Terry W., and Ibendahl, Gregory, Cotton, Inc., \$15,000, "Economics of Whole-farm Swarm-Bots for Cotton Production in the US."

Hendricks, Nathan P., Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$119,935, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Ibendahl, Gregory, and Griffin, Terry W., Cotton, Inc., \$15,000, "Economics of Whole-farm Swarm-Bots for Cotton Production in the US."

Janzen, Sarah, Bill and Melinda Gates Foundation, \$40,652, "Digital Credit for Agriculture."

Janzen, Sarah, International Initiative for Impact Evaluations, Inc., \$85,975, "Linking Smallholders to Financial Markets with Bundled Products."

Janzen, Sarah, US Agency for International Development, \$21,736, "Designing and Evaluating Innovations for Development of Smallholder Female Livestock Cooperatives in Nepal."

Llewelyn, Richard V., O'Brien, Daniel M. (Northwest Area Office), **Reid, Roberta M.**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$14,561, "Utilizing RMA Insurance Products to Enhance Farm-level Risk Management Strategies for Kansas Producers."

Pendell, Dustin L., Amrine, David E. (Dean of Veterinary Medical Center), **Larson, Robert L.** (Clinical Sciences), **Weaver, Robert L.** (Animal Sciences and Industry), and **White, Bradley J.** (Dean of Veterinary Medical Center), American Angus Association, \$18,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

Pendell, Dustin L., Kansas Department of Agriculture, \$27,020, "Benefit and Cost Analysis of Cattle Trace Identification System."

Pendell, Dustin L., Bradford, Barry J. (Animal Sciences and Industry), **Min, Doohong** (Agronomy), **O'Quinn, Travis G.** (Animal Sciences and Industry), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$65,441, "Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia."

Perry, Edward, US Department of Agriculture, \$66,336, "Neonicotinoid Seed Treatments in US Agriculture: Production, Welfare, and Environmental Impacts."

Reid, Roberta M., and **Taylor, Mykel R.**, US Department of Agriculture, \$44,879, "Farm Financial Skills for Kansas Women in Agriculture-A Statewide Program to Address Financial Risk Amid a Struggling Farm Economy."

Reid, Roberta M., Bigham, Kari A. (Biological and Agricultural Engineering), and **Featherstone, Allen M.**, US Department of Agriculture, \$11,390, "Loss and Costs of Streambanks with and without Riparian Forest Buffers."

Reid, Roberta M., Llewelyn, Richard V., O'Brien, Daniel M. (Northwest Area Office), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$29,122, "Utilizing RMA Insurance Products to Enhance Farm-level Risk Management Strategies for Kansas Producers."

Ross, Kara, Amanor-Boadu, Vincent R., Shanoyan, Aleksan, and **Zereyesus, Yacob**, US Department of Agriculture, "METSS Ghana Implementation (Sustaining Growth Through Effective Management and Collaboration)."

Ross, Kara, Amanor-Boadu, Vincent R., Shanoyan, Aleksan, and **Zereyesus, Yacob**, US Department of Agriculture, "Monitoring, Evaluation and Analytical Support Services."

Sampson, Gabriel S., DeRouchey, Joel M. (Animal Sciences and Industry), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$30,943, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Schroeder, Ted C., Kansas Department of Agriculture, \$10,000, "Value of Cattle Traceability."

Shanoyan, Aleksan, Amanor-Boadu, Vincent R., Ross, Kara, and Zereyesus, Yacob, US Department of Agriculture, "METSS Ghana Implementation (Sustaining Growth Through Effective Management and Collaboration)."

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Tack, Jesse B., US Department of Agriculture, \$57,324, "New Policy Implications of 'Big Ag Data'."

Tack, Jesse B., and Bergtold, Jason S., US Department of Agriculture, \$50,843, "Producer Driven Adaptation to Extreme Weather and Climate Change: Examining Crop Management and Marketing Adaption Strategies (Noah Miller)."

Taylor, Mykel R., and Reid, Roberta M., US Department of Agriculture, \$4,987, "Farm Financial Skills for Kansas Women in Agriculture-A Statewide Program to Address Financial Risk Amid a Struggling Farm Economy."

Tonsor, Glynn T., Blasi, Dale A. (Animal Sciences and Industry), **DeRouchey, Joel M.** (Animal Sciences and Industry), **O'Quinn, Travis G.** (Animal Sciences and Industry), **Tarpoff, Anthony J.** (Animal Sciences and Industry), and **Thomson, Daniel U.** (Diagnostic Medicine/Pathobiology), National Cattlemen's Beef Association, \$22,522, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

Tonsor, Glynn T., US Department of Agriculture, \$91,975, "Consumer and Societal Impacts of More Efficient Animal Protein Production."

Tsoodle, Leah J., and Featherstone, Allen M., Kansas Department of Revenue, \$322,222, "Modification of Agreement."

Villoria Siegert, Nelson B., US Department of Agriculture, \$152,532, "Economic Foundations of Long Run Agricultural Sustainability."

Zereyesus, Yacob, Amanor-Boadu, Vincent R., Ross, Kara, and Shanoyan, Aleksan, US Department of Agriculture, "METSS Ghana Implementation (Sustaining Growth Through Effective Management and Collaboration)."

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Minton, J. Ernest, and Sexton-Bowser, Sarah A. (Dean of Agriculture and Director of AES), US Department of Agriculture, \$27,500, "Acquisition of Goods and Services."

AGRICULTURAL RESEARCH CENTER-HAYS

Gillen, Robert L., Support Funds, \$50,000, "AHY Support Funds Research 37."

Harmony, Keith R., and Lamm, Freddie R. (Northwest Research Extension Center), US Department of Agriculture, \$100,000, "Improving the Efficiency of Alfalfa Irrigation in the Great Plains Region with Subsurface Drip Irrigation."

Harmoney, Keith R., US Department of Agriculture, \$43,936, "Systems to Reduce Old World Bluestems and Their Impacts on Rangelands."

Jaeger, John R., Holman, Johnathon D. (Southwest Research Extension Center), **Johnson, Sandra K.** (Northwest Area Office), **Kumar, Vipin, Obour, Augustine K.**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$9,991, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Jaeger, John R., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K., O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$3,162, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Kumar, Vipin, Kansas Soybean Commission, \$10,249, "Best Management Practices in Soybean for Managing Herbicide-Resistant Weeds in Western Kansas."

Kumar, Vipin, and **Peterson, Dallas E.** (Agronomy), Kansas Soybean Commission, \$17,109, "Non-Xtend Soybean Response to Simulated Dicamba Drift."

Kumar, Vipin, Monsanto Company, \$4,500, "Service Order No. 63."

Kumar, Vipin, Monsanto Company, \$11,088, "Service Order No. 64."

Kumar, Vipin, Monsanto Company, \$10,080, "Service Order No. 65."

Kumar, Vipin, Monsanto Company, \$10,080, "Service Order No. 66."

Kumar, Vipin, Monsanto Company, \$12,096, "Service Order No. 67."

Kumar, Vipin, Falk Jones, Jeanne S. (Northwest Area Office), **O'Brien, Daniel M.** (Northwest Area Office), and **Stahlman, Phillip W.**, National Sunflower Association, \$9,100, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

Kumar, Vipin, Holman, Johnathon D. (Southwest Research Extension Center), **Jaeger, John R., Johnson, Sandra K.** (Northwest Area Office), **Obour, Augustine K.**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$29,973, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Obour, Augustine K., Holman, Johnathon D. (Southwest Research Extension Center), **Jaeger, John R., Johnson, Sandra K.** (Northwest Area Office), **Kumar, Vipin**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$69,937, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Obour, Augustine K., Ciampitti, Ignacio (Agronomy), **Esser, Andrew R.** (Agronomy), **Haag, Lucas A.** (Northwest Area Office), **Holman, Johnathon D.** (Southwest Research Extension Center), **Roozeboom, Kraig L.** (Agronomy), and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$8,584, "Sustainable Field Pea Cropping Systems for the Great Plains."

Obour, Augustine K., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrcs & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R., Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$25,298, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Perumal, Ramasamy, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Morris, Geoffrey** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$50,400, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

Perumal, Ramasamy, Little, Christopher R. (Plant Pathology), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$3,716, "Germplasm Screening, Host Interactions, and Lodging Resilience for Stalk Rot Disease in Kansas."

Perumal, Ramasamy, Hayes, Chad (Agronomy), and **Morris, Geoffrey** (Agronomy), Kansas Grain Sorghum Commission, \$4,715, "Improving Chilling Tolerance in Grain Sorghum With Genomic-Assisted Breeding."

Perumal, Ramasamy, and SV, Krishna Jagadish (Agronomy), Kansas Grain Sorghum Commission, \$9,000, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Early Season Chilling and Terminal Drought Stress Resilience."

Perumal, Ramasamy, US Department of Agriculture, \$25,000, "Development and Characterization of Sorghum with Improved End-Use Quality."

Stahlman, Phillip W., Falk Jones, Jeanne S. (Northwest Area Office), **Kumar, Vipin**, and **O'Brien, Daniel M.** (Northwest Area Office), National Sunflower Association, \$1,300, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

Zhang, Guorong, Brewers Association, \$5,000, "Building a Winter Malting Barley Market for the Great Plains."

Zhang, Guorong, US Department of Agriculture, \$48,000, "Validation, Characterization and Deployment of QTL for Grain Yield Components in Wheat - AG Research Center - Hays."

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Adee, Eric A., Little, Christopher R. (Plant Pathology), and **Schapaugh Jr, William T.**, Kansas Soybean Commission, \$3,995, "Investigating SDS and Fusarium Root Rot Resistance, Preventive Seed Treatments, and Pathogen Variability in Kansas."

Adee, Eric A., Support Funds, \$76,100, "AGR Support Funds Experiment Field 26."

Alvarez Santos, Eduardo, Ciampitti, Ignacio, and **Redmond, Christopher A.**, Kansas Corn Commission, "Updating the Kansas Mesonet for Longevity and to Improve Decision Making Tools."

Alvarez Santos, Eduardo, Albin, Nathan (Mathematics), **Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K., Hettiarachchi, Ganga M., Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish**, and **Welch, Stephen M.**, National Science Foundation, \$160,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Ciampitti, Ignacio, Compass Minerals USA Inc., \$13,032, "Improving Soybean Yields on an Integrated Farming Systems Approach."

Ciampitti, Ignacio, and Ruiz Diaz Suarez, Dorivar A., Compass Minerals USA Inc., \$13,420, "ProAcqua Program for Different Winter Wheat Varieties."

Ciampitti, Ignacio, Morris, Geoffrey, and Sexton-Bowser, Sarah A. (Dean of Agriculture and Director of AES), Foundation for Food and Agriculture Research, \$363,818 (includes \$113,923 from Multi-Source Match), "Bridging the Genome-to-Phenome Breeding Gap for Water-Efficient Crop Yields (G2P Bridge)."

Ciampitti, Ignacio, John Deere World Headquarters, \$156,446, "KSU On Farm Canola Trials."

Ciampitti, Ignacio, and McCornack, Brian P. (Entomology), Kansas Corn Commission, \$17,445, "Beyond the Summer Science Institute-Using Corn in the Curriculum to Advance Inquiry-Based Learning."

Ciampitti, Ignacio, Kansas Corn Commission, \$30,000, "Corn Research and Extension."

Ciampitti, Ignacio, Alvarez Santos, Eduardo, and Redmond, Christopher A., Kansas Corn Commission, "Updating the Kansas Mesonet for Longevity and to Improve Decision Making Tools."

Ciampitti, Ignacio, Kansas Grain Sorghum Commission, \$8,960, "Sorghum Production Schools for Kansas."

Ciampitti, Ignacio, and Duncan, Stewart R. (Northeast Area Office), Kansas Soybean Commission, \$53,770, "2019 K-State Soybean Production Schools for Kansas."

Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), **Ruiz Diaz Suarez, Dorivar A.**, and **Sweeney, Daniel W.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$4,333, "Assessment of Soil Potassium Bioavailability and Improving Diagnostics Tools for K Management on Soybean in Kansas."

Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), **Jardine, Douglas J.** (Plant Pathology), **Knapp, Mary C.**, **McCornack, Brian P.** (Entomology), **O'Brien, Daniel M.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.**, Kansas Soybean Commission, \$16,500, "Improving Soybean Yields by Enhancing Seed Filling."

Ciampitti, Ignacio, Pioneer Hi-Bred International, Inc., \$161,352, "Collaboration Research Agreement for Predictive AgCrop Science."

Ciampitti, Ignacio, United Soybean Board, \$431,344, "Effect of Cultural Practices on Soybean Seed Quality: A Review and Research Studies."

Ciampitti, Ignacio, Esser, Andrew R., Haag, Lucas A. (Northwest Area Office), **Holman, Johnathon D.** (Southwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), **Roozeboom, Kraig L.**, and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$8,584, "Sustainable Field Pea Cropping Systems for the Great Plains."

Dille, Johanna A., Xarvio Digital Farming Solutions, \$10,000, "2018 Weed Image Collection via iCatcher App."

Esser, Andrew R., Ciampitti, Ignacio, Haag, Lucas A. (Northwest Area Office), **Holman, Johnathon D.** (Southwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), **Roozeboom, Kraig L.**, and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$4,292, "Sustainable Field Pea Cropping Systems for the Great Plains."

Fritz, Allan K., Kansas Wheat Commission, \$247,284, "Improvement of Hard Winter Wheat for Kansas."

Fritz, Allan K., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo, Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Hettiarachchi, Ganga M., Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish**, and

Welch, Stephen M., National Science Foundation, \$160,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Fritz, Allan K., Pioneer Hi-Bred International, Inc., \$50,940, "Hybrid Wheat Seed Production Agreement."

Fritz, Allan K., US Department of Agriculture, \$70,000, "Breeding for Tolerance to Environmental Stress in Wheat."

Fritz, Allan K., DeWolf, Erick D. (Plant Pathology), **Lollato, Romulo P.**, and **Rupp, Jessica** (Plant Pathology), US Department of Agriculture, \$5,540, "Prediction Models and Improved Pre-Harvest Estimates of Deoxynivalenol."

Hayes, Chad, Morris, Geoffrey, and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$4,715, "Improving Chilling Tolerance in Grain Sorghum With Genomic-Assisted Breeding."

Hettiarachchi, Ganga M., Compass Minerals USA Inc., \$253,080, "Explaining the Interactions and Potential Availability of Different Micronutrient Fertilizers in Soils Using Wet Chemical, Visual and Spectroscopic Techniques."

Hettiarachchi, Ganga M., Hansen, Ryan R. (Chemical Engineering), **Kulesza, Stacey E.** (Civil Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Welch, Stephen M.**, National Science Foundation, \$66,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Hettiarachchi, Ganga M., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo, Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K., Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish**, and **Welch, Stephen M.**, National Science Foundation, \$160,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Hettiarachchi, Ganga M., US Department of Housing and Urban Development, \$78,803, "Reducing Children's Blood Lead Levels by Mitigating Household Lead Paint in Central El Paso, TX."

Jugulam, Mithila, BASF Corporation, \$9,728, "Herbicide Evaluation Trial on Palmer Amaranth Control."

Jugulam, Mithila, Kansas Grain Sorghum Commission, \$25,000, "Mechanism of Mesotrione Tolerance in Sorghum and Screening Sorghum Germplasm for Tolerance to Synthetic Auxins."

Jugulam, Mithila, Miller Chemical and Fertilizer LLC, \$21,870, "Enhancement of Herbicide Uptake and Translocation by Miller Adjuvants."

Kluitenberg, Gerard J., Nelson, Nathan O., Roozeboom, Kraig L., and **Tomlinson, Peter J.**, Kansas Soybean Commission, "Cover Crops and Phosphorus Management to Protect Water Quality in Soybean Rotation."

Knapp, Mary C., Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), **Jardine, Douglas J.** (Plant Pathology), **McCornack, Brian P.** (Entomology), **O'Brien, Daniel M.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.**, Kansas Soybean Commission, \$1,375, "Improving Soybean Yields by Enhancing Seed Filling."

Lin, Xiaomao, Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.**, and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$1,722, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Lin, Xiaomao, National Oceanic and Atmosphere Administration, \$110,352, "Weather Data Library Data Sets."

Lin, Xiaomao, Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$18,974, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Lingenfelter, Jane E., Syngenta Seeds, Inc., \$13,720, "Service Order A-1: Standard Yield Trial Evaluations."

Lollato, Romulo P., and **Moorberg, Colby**, Agro Innovation International, \$31,008, "Specialty Fertilizer Effects on Above- and Below-ground Wheat Growth, Grain Yield, and Yield Components."

Lollato, Romulo P., Sirius Minerals PLC, \$25,334, "Polyhalite as an Alternative Fertilizer Source for Wheat Production in Kansas."

Lollato, Romulo P., Taminco, Inc., \$31,482, "Plant Growth Regulator Efficacy Testing - 2019 Season."

Lollato, Romulo P., **DeWolf, Erick D.** (Plant Pathology), **Fritz, Allan K.**, and **Rupp, Jessica** (Plant Pathology), US Department of Agriculture, \$13,296, "Prediction Models and Improved Pre-Harvest Estimates of Deoxynivalenol."

Min, Doohong, Forage Genetics International, \$11,400, "FGI Alfalfa Study."

Min, Doohong, Bradford, Barry J. (Animal Sciences and Industry), **O'Quinn, Travis G.** (Animal Sciences and Industry), **Pendell, Dustin L.** (Agricultural Economics), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$32,721, "Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia."

Moorberg, Colby, and **Lollato, Romulo P.**, Agro Innovation International, \$20,672, "Specialty Fertilizer Effects on Above- and Below-ground Wheat Growth, Grain Yield, and Yield Components."

Moorberg, Colby, and **Zhang, Naiqian** (Biological and Agricultural Engineering), National Science Foundation, \$153,992, "Collaborative Research: EAGER SitS: Automated Imaging Platform for In Situ Sensing and Analysis of Roots, Fungi, and Soil Solution Chemistry."

Moorberg, Colby, US Department of Agriculture, \$133,333, "Using the NWCA Database in Advance Ecological Site Descriptions."

Moorberg, Colby, Biles, Larry E. (Kansas Forest Service), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), **Moore, Trisha L.** (Biological and Agricultural Engineering), and **Sheshukov, Aleksey Y.** (Biological and Agricultural Engineering), US Department of the Interior, \$4,732 (includes \$4,732 from In-Kind), "Kansas Water Resources Research Institute 2016."

Morris, Geoffrey, Bill and Melinda Gates Foundation, \$189,400, "Sorghum Genomics Toolbox: TERRA Partnership."

Morris, Geoffrey, Ciampitti, Ignacio, and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), Foundation for Food and Agriculture Research, \$727,635 (includes \$227,846 from Multi-Source Match), "Bridging the Genome-to-Phenome Breeding Gap for Water-Efficient Crop Yields (G2P Bridge)."

Morris, Geoffrey, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Perumal, Ramasamy** (Agricultural Research Center-Hays), and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$3,150, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

Morris, Geoffrey, Hayes, Chad, and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$84,870, "Improving Chilling Tolerance in Grain Sorghum With Genomic-Assisted Breeding."

Morris, Geoffrey, US Department of Agriculture, \$1,443, "Improving Cold Tolerance in Sorghum: A Promising Feedstock for Biofuels and Biobased Products in the Northern Great Plains."

Morris, Geoffrey, and **Poland, Jesse A.** (Plant Pathology), US Department of Energy, \$130,832, "A Reference Phenotyping System for Energy Sorghum."

Nelson, Nathan O., Kluitenberg, Gerard J., Roozeboom, Kraig L., and **Tomlinson, Peter J.**, Kansas Soybean Commission, \$5,000, "Cover Crops and Phosphorus Management to Protect Water Quality in Soybean Rotation."

Peterson, Dallas E., and **Kumar, Vipin** (Agricultural Research Center-Hays), Kansas Soybean Commission, \$17,109, "Non-Xtend Soybean Response to Simulated Dicamba Drift."

Peterson, Dallas E., Support Funds, \$207,286, "AGR Support Funds Public Service 35."

Peterson, Dallas E., United Soybean Board, \$30,000, "Take Action - Multi-State Herbicide Resistant Crops and Weeds Education Program."

Peterson, Dallas E., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), **Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Pierzynski, Gary M., Support Funds, \$16,740, "International Plant Nutrition Institute (Ciampitti)."

Pokharel, Meghnath, Stamm, Michael J., and **SV, Krishna Jagadish**, US Department of Agriculture, "Heat and Drought Effects on the Oil Formation of Southern Great Plains Winter Canola."

Presley, DeAnn R., Kansas Department of Health and Environment, \$13,983, "KSU Agronomy Compost Site Development and Operation and Compost Operator Educational and Technical Assistance."

Presley, DeAnn R., US Department of Agriculture, \$50,000, "Implementing Sustainable Landscape Designs for Great Plains Bioenergy Supply Systems."

Ransom, Michel D., Support Funds, \$12,000, "Fluid Fertilizer Foundation."

Ransom, Michel D., US Department of Agriculture, \$170,000, "Development of DNA Markers for Resistance to Wheat Diseases."

Ransom, Michel D., US Department of Agriculture, \$180,000, "Development of Genomic Tools for Genetic Improvement of Wheat."

Redmond, Christopher A., Alvarez Santos, Eduardo, and Ciampitti, Ignacio, Kansas Corn Commission, \$9,319, "Updating the Kansas Mesonet for Longevity and to Improve Decision Making Tools."

Rice, Charles W., Dodds, Walter K. (Biology), and **Zeglin, Lydia H.** (Biology), Kansas Board of Regents, \$7,960, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Rice, Charles W., Kansas State University Foundation, \$40,000, "Mary L. Vanier Endowed Professorship."

Rice, Charles W., Dodds, Walter K. (Biology), and **Zeglin, Lydia H.** (Biology), National Science Foundation, \$146,092, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

Rice, Charles W., US Department of Agriculture, \$100,000, "Soil Health and Dynamic Soil Properties across a Precipitation Gradient of Prairie and Agricultural Soils."

Roozeboom, Kraig L., Little, Christopher R. (Plant Pathology), **SV, Krishna Jagadish**, and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$4,535, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

Roozeboom, Kraig L., Kluitenberg, Gerard J., Nelson, Nathan O., and Tomlinson, Peter J., Kansas Soybean Commission, "Cover Crops and Phosphorus Management to Protect Water Quality in Soybean Rotation."

Roozeboom, Kraig L., Lin, Xiaomao, Little, Christopher R. (Plant Pathology), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$5,165, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Roozeboom, Kraig L., National Crop Insurance Services, \$22,000, "Unrestricted Gift."

Roozeboom, Kraig L., Ciampitti, Ignacio, Esser, Andrew R., Haag, Lucas A. (Northwest Area Office), **Holman, Johnathon D.** (Southwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$34,335, "Sustainable Field Pea Cropping Systems for the Great Plains."

Ruiz Diaz Suarez, Dorivar A., and Ciampitti, Ignacio, Compass Minerals USA Inc., \$31,313, "ProAcqua Program for Different Winter Wheat Varieties."

Ruiz Diaz Suarez, Dorivar A., Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), and **Sweeney, Daniel W.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$30,330, "Assessment of Soil Potassium Bioavailability and Improving Diagnostics Tools for K Management on Soybean in Kansas."

Ruiz Diaz Suarez, Dorivar A., Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), **Jardine, Douglas J.** (Plant Pathology), **Knapp, Mary C., McCornack, Brian P.** (Entomology), and **O'Brien, Daniel M.** (Northwest Area Office), Kansas Soybean Commission, \$1,375, "Improving Soybean Yields by Enhancing Seed Filling."

Ruiz Diaz Suarez, Dorivar A., Koch Agronomic Services, LLC, \$9,452, "Evaluation of Experimental Urease Inhibitors in Corn."

Ruiz Diaz Suarez, Dorivar A., SABIC Global Technologies B.V., \$76,935, "Urea Calcium Sulfate (UCS) Evaluation for its Effect on Wheat Growth and Yield as Influenced by its Nitrogen-Use-Efficiency."

Ruiz Diaz Suarez, Dorivar A., Haag, Lucas A. (Northwest Area Office), **Schlegel, Alan J.** (Southwest Research Extension Center), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter**

J., US Department of Agriculture, \$4,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

Ruiz Diaz Suarez, Dorivar A., Haag, Lucas A. (Northwest Area Office), **Schlegel, Alan J.** (Southwest Research Extension Center), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter J.**, US Department of Agriculture, \$3,500, "Impact of Great Plains Production System on Sustainable Production of Grain Sorghum Cooperating with Lubbock, Texas."

Schapaugh Jr, William T., Todd, Timothy C. (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Soybean Commission, \$170,000, "Integrating Germplasm Evaluation, Genetic Engineering, Breeding and High-Throughput Phenotyping to Improve Sustainability of Soybean Production."

Schapaugh Jr, William T., Adee, Eric A., and Little, Christopher R. (Plant Pathology), Kansas Soybean Commission, \$1,998, "Investigating SDS and Fusarium Root Rot Resistance, Preventive Seed Treatments, and Pathogen Variability in Kansas."

Schapaugh Jr, William T., Flippo, Daniel (Biological and Agricultural Engineering), **Sharda, Ajay** (Biological and Agricultural Engineering), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, \$900, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Schapaugh Jr, William T., North Central Soybean Research Program, \$19,540, "Increasing the Rate of Genetic Gain for Yield in Soybean Breeding Programs."

Schapaugh Jr, William T., United Soybean Board, \$53,077, "Utilizing Unique Diversity to Combine Elevated Protein Concentration with High Yield in New Varieties and Experimental Lines."

Schapaugh Jr, William T., United Soybean Board, \$60,000, "Yield Potential of Commercial Varieties under Drought-Identifying and Overcoming Weaknesses Via the Public Breeding Pipeline."

Stamm, Michael J., BASF Corporation, \$7,986, "Winter Canola Program."

Stamm, Michael J., US Department of Agriculture, \$200,000, "Development and Management of Canola in the Great Plains Region."

Stamm, Michael J., Pokharel, Meghnath, and SV, Krishna Jagadish, US Department of Agriculture, \$60,000, "Heat and Drought Effects on the Oil Formation of Southern Great Plains Winter Canola."

SV, Krishna Jagadish, Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.**, and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$4,535, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

SV, Krishna Jagadish, and Perumal, Ramasamy (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$36,000, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Early Season Chilling and Terminal Drought Stress Resilience."

SV, Krishna Jagadish, Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo, Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K., Hettiarachchi, Ganga M., Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), and **Welch, Stephen M.**, National Science Foundation, \$140,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

SV, Krishna Jagadish, Pokharel, Meghnath, and Stamm, Michael J., US Department of Agriculture, \$60,000, "Heat and Drought Effects on the Oil Formation of Southern Great Plains Winter Canola."

SV, Krishna Jagadish, US Department of Agriculture, \$112,220, "Impact of Heat and Drought Stress on Sorghum and Wheat Grain Composition and Chemistry."

SV, Krishna Jagadish, US Department of Agriculture, \$165,000, "Influence of Environment and Plant Growth on Sorghum Grain Composition and End-use Quality."

SV, Krishna Jagadish, US Department of Agriculture, \$116,279, "Tolerance to Environmental Stress in Wheat."

Tesso, Tesfaye, Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.**, and **SV, Krishna Jagadish**, Kansas Grain Sorghum Commission, \$72,562, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

Tesso, Tesfaye, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Morris, Geoffrey**, and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$3,150, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

Tesso, Tesfaye, Little, Christopher R. (Plant Pathology), and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$3,716, "Germplasm Screening, Host Interactions, and Lodging Resilience for Stalk Rot Disease in Kansas."

Tesso, Tesfaye, Kellogg USA, Inc., \$100,000, "Development of New Sorghum and Millet Germplasm with Enhanced Protein Content and Leucine Amino Acid Profile."

Tomlinson, Peter J., Kluitenberg, Gerard J., Nelson, Nathan O., and **Roozeboom, Kraig L.**, Kansas Soybean Commission, "Cover Crops and Phosphorus Management to Protect Water Quality in Soybean Rotation."

Tomlinson, Peter J., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A., Schlegel, Alan J.** (Southwest Research Extension Center), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$14,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

Tomlinson, Peter J., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A., Schlegel, Alan J.** (Southwest Research Extension Center), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$12,250, "Impact of Great Plains Production System on Sustainable Production of Grain Sorghum Cooperating with Lubbock, Texas."

Welch, Stephen M., Hansen, Ryan R. (Chemical Engineering), **Hettiarachchi, Ganga M., Kulesza, Stacey E.** (Civil Engineering), and **Parameswaran, Prathap** (Civil Engineering), National Science Foundation, \$3,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Welch, Stephen M., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo, Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K., Hettiarachchi, Ganga M., Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), and **SV, Krishna Jagadish**, National Science Foundation, \$520,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

ANIMAL SCIENCES AND INDUSTRY

Amamcharla, Jayendra K., Abbott Laboratories, \$16,124, "Evaluation Reconstitution of Abbott Powders."

Amamcharla, Jayendra K., Dairy Farmers of America Inc., \$2,700, "Testing and Evaluation Services Agreement with Dairy Farmers of America."

Amamcharla, Jayendra K., Dairy Management, Inc., \$11,382, "Altering the Microstructure to Improve Functionality of Dairy Powders using Micro- and Nano-bubbles."

Amamcharla, Jayendra K., Dairy Management, Inc., \$43,886, "Understanding the Effects of Various Intrinsic and Extrinsic Factors on the Stability of Lactose-Rich Co-products."

Amamcharla, Jayendra K., Midwest Dairy Association, \$9,000, "Development of Rapid Method Protein Leak in Ultrafiltration Permeates."

Amamcharla, Jayendra K., Midwest Dairy Association, \$15,383, "Functional Modification of Dairy Ingredients Using Whey Protein Nanofibrils to Replace Thickening Agents in the Formulations."

Amamcharla, Jayendra K., Midwest Dairy Association, \$16,500, "Rapid Determination of Emulsification in Process Cheese Prior to Cooling."

Amamcharla, Jayendra K., Midwest Dairy Association, \$8,965, "Rapid Measurement of Lactose in Dairy Powders Using a Blood Glucose Biosensor."

Amamcharla, Jayendra K., National Dairy Council, \$119,680, "Development, Characterization, and Evaluation of Modified Milk Protein Concentrate with Enhanced Functional Properties."

Amamcharla, Jayendra K., Utah State University, \$76,800, "Optimization and Characterization of Dairy-based Agglomerated Protein Products Using Whey Protein Hydrolysates as a Binding Agent."

Aramouni, Fadi M., and **Herald, Thomas J.**, Kansas Department of Agriculture, \$70,000, "Food and Feed Value Added Program Project."

Aramouni, Fadi M., Kansas Department of Agriculture, \$1,482,330, "Food and Feed Value Added Program Project."

Beyer, R. Scott, Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Illinois Soybean Association, \$852, "Evaluation of Soybean Meal from Illinois Soybeans."

Beyer, R. Scott, Gonzalez, John M., Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Kerry Luxembourg S.a.r.l., \$9,000, "Testing and Evaluation Services Agreement - Study 3002."

Beyer, R. Scott, Gonzalez, John M., Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Kerry Luxembourg S.a.r.l., \$4,202, "Testing and Evaluation Services Agreement - Study Number 2008."

Blasi, Dale A., DeRouchey, Joel M., O'Quinn, Travis G., Tarpoff, Anthony J., Thomson, Daniel U. (Diagnostic Medicine/Pathobiology), and **Tonsor, Glynn T.** (Agricultural Economics), National Cattlemen's Beef Association, \$7,507, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

Bormann, Jennifer M., Rolf, Megan, and **Weaber, Robert L.**, Angus Genetics Inc, \$46,991, "Quantitative Genetics and Genomic Analysis of Novel Traits in American Angus Cattle."

Bradford, Barry J., ACE Ethanol LLC, \$104,000, "Productivity and Nitrogen Balance of Lactating Cows Fed a High-Protein Corn Feed Product."

Bradford, Barry J., Kansas Department of Agriculture, \$15,000, "Supporting Efforts to Grow the Kansas Dairy Sector."

Bradford, Barry J., Landus Cooperative, \$70,000, "Effect of Calcium Carbonate Supplementation on Metabolic Acid-based Status and Feed Intake of Cows with Compensated Metabolic Acidosis."

Bradford, Barry J., Nutreco, \$95,274, "The Effect of Gluconic Acid (Calcium Gluconate) Supplementation in Diets for Mid-lactation Holstein Cows on Lactation Performance and Feed Efficiency."

Bradford, Barry J., and **Mamedova, Laman**, Phoreus Biotechnology, Inc., \$9,120, "Assessing Branched Amphipathic Peptide Capsules (BAPC) Delivery of Short Interfering RNA (siRNA) to Mammalian Cells."

Bradford, Barry J., **Min, Doohong** (Agronomy), **O'Quinn, Travis G.**, **Pendell, Dustin L.** (Agricultural Economics), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$65,441, "Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia."

Brouk, Micheal J., and **Harner III, Joseph P.** (Biological and Agricultural Engineering), Deere & Company, \$10,829, "Assessing the Variability of Packing Density and Kernel Processing Score Associated with Bunker and Drive-Over Silage Masses."

Brouk, Micheal J., Delaval, Inc., \$6,924, "Independent Contractor Agreement."

Chao, Michael, **Magnin, Geraldine C.** (Anatomy and Physiology), and **O'Quinn, Travis G.**, National Cattlemen's Beef Association, \$9,900, "Utilizing Collagen Crosslinks as Markers for Sensory Improvement of Beef Shin/Shank Cuts."

Crane, Alison R., **Jones, Cassandra K.**, and **Lattimer, James M.**, Kansas Corn Commission, \$13,698, "Utilizing Undergraduate Research to Evaluate Corn Distillers Grains or Corn Gluten Feed as a Replacement for Soybean Meal in Boer Grower Rations."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Tokach, Michael D.**, and **Woodworth, Jason C.**, Ajinomoto Heartland LLC, \$8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Tokach, Michael D.**, and **Woodworth, Jason C.**, Biomin America Inc., \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.**, and **Woodworth, Jason C.**, CEVA Biomune, \$21,298, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Tokach, Michael D.**, and **Woodworth, Jason C.**, CJ America, Inc., \$5,000, "Determining the Effects of Tryptophan Biomass on Growth Performance of 25- to 50- lb Nursery Pigs."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Tokach, Michael D.**, and **Woodworth, Jason C.**, CJ America, Inc., \$6,000, "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

DeRouchey, Joel M., **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, **Tokach, Michael D.**, and **Woodworth, Jason C.**, DSM Nutritional Products AG, \$6,000, "Determining the Effects of High

Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, ICM, Inc., \$5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, ICM, Inc., \$16,000, "Evaluation of High-Protein Distillers Dried Grains on Growth Performance and Carcass Characteristics of Growing-Finishing Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Iowa Select Farms, \$12,000, "Iowa Select Student Fellowship."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Jefe Nutrition, Inc., \$9,000, "Determining the Effects of Xylanase on Growth Performance, Carcass Characteristics, and Economics of Growing-finishing Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Kemin Industries, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Micronutrients, \$8,000, "Effects of Feeding Intellibond CII Throughout Finishing or Via a Withdrawal Strategy on Finishing Pig Growth Performance, Carcass Characteristics, and Economic Return."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Micronutrients, \$12,000, "Micronutrients Student Fellowship."

DeRouchey, Joel M., Blasi, Dale A., O'Quinn, Travis G., Tarpoff, Anthony J., Thomson, Daniel U. (Diagnostic Medicine/Pathobiology), and **Tonsor, Glynn T.** (Agricultural Economics), National Cattlemen's Beef Association, \$7,507, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

DeRouchey, Joel M., Tokach, Michael D., and Woodworth, Jason C., National Pork Board, \$34,226, "An Integrated Approach to Improve Whole Herd Pig Survivability."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, National Pork Board, \$87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, National Pork Board, \$20,721 (includes \$6,000 from 3rd Party Match), "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, New Fashion Pork, \$6,400, "New Fashion Pork Student Fellowship."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, NutriQuest, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, OLMIX, \$6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Origination Inc, \$12,000, "Comparing the Effects of Different Phytase Sources on the Growth Performance and Bone Mineralization of Nursery Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Origination Inc, \$12,000, "Determination of Efficacy of a Novel Phytase Source in Nursery Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, PIC North America (PIC USA, Inc.), \$12,000, "PIC Student Fellowship."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Pipestone Grow Finish, \$12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Purco, \$5,400, "PURCO Project."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Sustainable Nutrition S.I., \$5,000, "Effect of Supplementation of Monomix and/or ZnO on Growth Performance of Nursery Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, SVC Research, LLC, \$16,000, "KSU Applied Swine Nutrition Fellowship."

DeRouchey, Joel M., Goodband, Robert D., Lattimer, James M., Tokach, Michael D., and Woodworth, Jason C., Syngenta Seeds, Inc., \$8,000, "Evaluation of High Amylase Corn on Growth Performance and Carcass Characteristics of Grow-finish Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), **Tokach, Michael D., and Woodworth, Jason C.**, Syngenta Seeds, Inc., \$24,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, United Soybean Board, \$17,736, "Benefit of High Levels of Soybean Meal in Diets Fed on Commercial Swine Farms."

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, United Soybean Board, \$9,699, "Determining the Productive Energy Content of Soybean Meal."

DeRouchey, Joel M., Rivard, Cary L. (Horticulture and Natural Resources), **Sampson, Gabriel S.** (Agricultural Economics), **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$15,471, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Douthit, Teresa L., Drouillard, James S., and Lattimer, James M., AB Vista, \$1,982, "Effect of Application Method of Vista Pre-T to a Dairy TMR on Ruminant in vitro Fermentation Parameters."

Douthit, Teresa L., Drouillard, James S., and Lattimer, James M., Milne Fruit Products, \$1,526, "Acceptability of Horse Feeds Containing Milne Blueberry Juice Concentrate 65 Brix and Blueberry Puree Concentrate 30 Brix."

Drouillard, James S., Douthit, Teresa L., and Lattimer, James M., AB Vista, \$1,982, "Effect of Application Method of Vista Pre-T to a Dairy TMR on Ruminant in vitro Fermentation Parameters."

Drouillard, James S., Douthit, Teresa L., and Lattimer, James M., Milne Fruit Products, \$1,526, "Acceptability of Horse Feeds Containing Milne Blueberry Juice Concentrate 65 Brix and Blueberry Puree Concentrate 30 Brix."

Drouillard, James S., Lattimer, James M., and Paulk, Chad B. (Grain Science and Industry), Syngenta Crop Protection, LLC, \$182,422, "Steam Flaking."

Fike, Karol E., and Odde, Kenneth G., Red Angus Association of America, \$30,000, "Superior Livestock Data Analytics Fellowship."

Gonzalez, John M., and Paulk, Chad B. (Grain Science and Industry), Ani-Tek Group, \$18,000, "The Effects of Nicotinamide Riboside Chloride on Growth Performance of Broilers."

Gonzalez, John M., Beyer, R. Scott, Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Kerry Luxembourg S.a.r.l., \$1,500, "Testing and Evaluation Services Agreement - Study 3002."

Gonzalez, John M., Beyer, R. Scott, Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Kerry Luxembourg S.a.r.l., \$700, "Testing and Evaluation Services Agreement - Study Number 2008."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** Ajinomoto Heartland LLC, \$8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** Biomin America Inc., \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** CEVA Biomune, \$21,298, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** CJ America, Inc., \$5,000, "Determining the Effects of Tryptophan Biomass on Growth Performance of 25- to 50- lb Nursery Pigs."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** CJ America, Inc., \$6,000, "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.,** DSM Nutritional Products AG, \$6,000, "Determining the Effects of High Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, ICM, Inc., \$5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, ICM, Inc., \$16,000, "Evaluation of High-Protein Distillers Dried Grains on Growth Performance and Carcass Characteristics of Growing-Finishing Pigs."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Iowa Select Farms, \$12,000, "Iowa Select Student Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Jefe Nutrition, Inc., \$9,000, "Determining the Effects of Xylanase on Growth Performance, Carcass Characteristics, and Economics of Growing-finishing Pigs."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Kemin Industries, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Micronutrients, \$8,000, "Effects of Feeding Intellibond CII Throughout Finishing or Via a Withdrawal Strategy on Finishing Pig Growth Performance, Carcass Characteristics, and Economic Return."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Micronutrients, \$12,000, "Micronutrients Student Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, National Pork Board, \$87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, National Pork Board, \$20,721 (includes \$6,000 from 3rd Party Match), "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, New Fashion Pork, \$6,400, "New Fashion Pork Student Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, NutriQuest, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, OLMIX, \$6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Origination Inc, \$12,000, "Comparing the Effects of Different Phytase Sources on the Growth Performance and Bone Mineralization of Nursery Pigs."

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Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, PIC North America (PIC USA, Inc.), \$12,000, "PIC Student Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Pipestone Grow Finish, \$12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Purco, \$5,400, "PURCO Project."

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Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, SVC Research, LLC, \$16,000, "KSU Applied Swine Nutrition Fellowship."

Goodband, Robert D., DeRouchey, Joel M., Lattimer, James M., Tokach, Michael D., and Woodworth, Jason C., Syngenta Seeds, Inc., \$8,000, "Evaluation of High Amylase Corn on Growth Performance and Carcass Characteristics of Grow-finish Pigs."

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Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, United Soybean Board, \$17,736, "Benefit of High Levels of Soybean Meal in Diets Fed on Commercial Swine Farms."

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Gragg, Sara E., Phebus, Randall K., Trinetta, Valentina, and Vipham, Jessie (Dean of Agriculture and Director of AES), HEPACART Inc., \$8,328, "Quantifying the Reduction of Shiga Toxin-Producing Escherichia coli (STEC) and Salmonella Populations on beef tissues subjected to HEPACART Technology."

Gragg, Sara E., Nwadike, Londa S. (Director of Cooperative Extension), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$44,857, "Capacity Building and Development for Food Safety in Bangladesh: Creative Approaches to Train-the-Trainer Programs for Hazard Analysis Critical Control Points (HACCP)."

Gragg, Sara E., Nwadike, Londa S. (Director of Cooperative Extension), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Department of Agriculture, \$900, "Continued Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement."

Herald, Thomas J., and Aramouni, Fadi M., Kansas Department of Agriculture, "Food and Feed Value Added Program Project."

Hulbert, Lindsey E., US Navy, \$25,000, "Blast II Subcontract: Using Behaviors as Biomarkers to Detect Subconcussive Mild Brain Trauma in Pigs Caused by Three Different Exposure Times to Blast."

Jones, Cassandra K., Crane, Alison R., and Lattimer, James M., Kansas Corn Commission, \$13,698, "Utilizing Undergraduate Research to Evaluate Corn Distillers Grains or Corn Gluten Feed as a Replacement for Soybean Meal in Boer Grower Rations."

Jones, Cassandra K., Li, Yonghai (Grain Science and Industry), **Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), **Tokach, Michael D.,** and **Woodworth, Jason C.,** National Pork Board, \$4,003, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Jones, Cassandra K., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.,** and **Woodworth, Jason C.,** National Pork Board, \$38,174, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

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Jones, Cassandra K., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.,** Swine Health Information Center, \$17,404, "A Validated Method to Test Bulk Feed Products and Applying it to Monitoring Shipments for Pathogen Contamination."

Jones, Cassandra K., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.,** Swine Health Information Center, \$25,796, "Assessing Distribution and Mitigation of Senecavirus A, a Foot and Mouth Disease Surrogate, in a Swine Feed Mill."

Jones, Cassandra K., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.,** and **Woodworth, Jason C.,** Swine Health Information Center, \$3,155, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Lattimer, James M., Douthit, Teresa L., and **Drouillard, James S.,** AB Vista, \$2,042, "Effect of Application Method of Vista Pre-T to a Dairy TMR on Ruminal in vitro Fermentation Parameters."

Lattimer, James M., Crane, Alison R., and **Jones, Cassandra K.,** Kansas Corn Commission, \$6,849, "Utilizing Undergraduate Research to Evaluate Corn Distillers Grains or Corn Gluten Feed as a Replacement for Soybean Meal in Boer Grower Rations."

Lattimer, James M., Douthit, Teresa L., and **Drouillard, James S.,** Milne Fruit Products, \$1,573, "Acceptability of Horse Feeds Containing Milne Blueberry Juice Concentrate 65 Brix and Blueberry Puree Concentrate 30 Brix."

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Lattimer, James M., DeRouchey, Joel M., Goodband, Robert D., Tokach, Michael D., and **Woodworth, Jason C.,** Syngenta Seeds, Inc., \$8,000, "Evaluation of High Amylase Corn on Growth Performance and Carcass Characteristics of Grow-finish Pigs."

Lee, Charles D., Kansas Department of Wildlife and Parks, \$61,189, "Extension Education Position Support."

Mamedova, Laman, and Bradford, Barry J., Phoreus Biotechnology, Inc., \$9,120, "Assessing Branched Amphipathic Peptide Capsules (BAPC) Delivery of Short Interfering RNA (siRNA) to Mammalian Cells."

Odde, Kenneth G., and Fike, Karol E., Red Angus Association of America, \$30,000, "Superior Livestock Data Analytics Fellowship."

O'Quinn, Travis G., Certified Hereford Beef LLC, \$50,684, "Consumer Evaluation of Certified Hereford Beef in Comparison to USDA Choice, Prime, and Upper 2/3 Choice Beef from Black-hided Cattle."

O'Quinn, Travis G., Blasi, Dale A., DeRouchey, Joel M., Tarpoff, Anthony J., Thomson, Daniel U. (Diagnostic Medicine/Pathobiology), and **Tonsor, Glynn T.** (Agricultural Economics), National Cattlemen's Beef Association, \$7,507, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

O'Quinn, Travis G., Chao, Michael, and Magnin, Geraldine C. (Anatomy and Physiology), National Cattlemen's Beef Association, \$5,400, "Utilizing Collagen Crosslinks as Markers for Sensory Improvement of Beef Shin/Shank Cuts."

O'Quinn, Travis G., Bradford, Barry J., Min, Doohong (Agronomy), **Pendell, Dustin L.** (Agricultural Economics), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$65,441, "Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia."

Phebus, Randall K., and Smith, Gordon L. (Grain Science and Industry), General Mills, Inc., \$58,964, "Flour Safety: An Industry Collaboration Proposal for K-State Studies to Advance the Development of a Commercially Applied Antimicrobial Intervention [Study 1a]1."

Phebus, Randall K., Gragg, Sara E., Trinetta, Valentina, and Vipham, Jessie (Dean of Agriculture and Director of AES), HEPACART Inc., \$4,164, "Quantifying the Reduction of Shiga Toxin-Producing Escherichia coli (STEC) and Salmonella Populations on beef tissues subjected to HEPACART Technology."

Rolf, Megan, Bormann, Jennifer M., and Weaber, Robert L., Angus Genetics Inc, \$48,415, "Quantitative Genetics and Genomic Analysis of Novel Traits in American Angus Cattle."

Smith, J. Scott, Trinetta, Valentina, and Yucel, Umut, US Department of Health and Human Services, \$36,106, "Development of Validation of Analytical and Physical Testing Methods to Evaluate the Irradiation History of Animal Feeds."

Tarpoff, Anthony J., Blasi, Dale A., DeRouchey, Joel M., O'Quinn, Travis G., Thomson, Daniel U. (Diagnostic Medicine/Pathobiology), and **Tonsor, Glynn T.** (Agricultural Economics), National Cattlemen's Beef Association, \$22,522, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Ajinomoto Heartland LLC, \$8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Biomin America Inc., \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

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Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, CJ America, Inc., \$5,000, "Determining the Effects of Tryptophan Biomass on Growth Performance of 25- to 50- lb Nursery Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, CJ America, Inc., \$6,000, "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, DSM Nutritional Products AG, \$6,000, "Determining the Effects of High Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, ICM, Inc., \$5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, ICM, Inc., \$16,000, "Evaluation of High-Protein Distillers Dried Grains on Growth Performance and Carcass Characteristics of Growing-Finishing Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Iowa Select Farms, \$12,000, "Iowa Select Student Fellowship."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Jefe Nutrition, Inc., \$9,000, "Determining the Effects of Xylanase on Growth Performance, Carcass Characteristics, and Economics of Growing-finishing Pigs."

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Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Micronutrients, \$8,000, "Effects of Feeding Intellibond CII Throughout Finishing or Via a Withdrawal Strategy on Finishing Pig Growth Performance, Carcass Characteristics, and Economic Return."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Micronutrients, \$12,000, "Micronutrients Student Fellowship."

Tokach, Michael D., DeRouchey, Joel M., and **Woodworth, Jason C.**, National Pork Board, \$33,220, "An Integrated Approach to Improve Whole Herd Pig Survivability."

Tokach, Michael D., Jones, Cassandra K., Li, Yonghai (Grain Science and Industry), **Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), and **Woodworth, Jason C.**, National Pork Board, \$4,003, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, National Pork Board, \$87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, National Pork Board, \$20,721 (includes \$6,000 from 3rd Party Match), "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Tokach, Michael D., Amachawadi, Raghavendra G. (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), National Pork Board, \$14,287, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Tokach, Michael D., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.**, National Pork Board, \$5,726, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, New Fashion Pork, \$6,400, "New Fashion Pork Student Fellowship."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, NutriQuest, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, OLMIX, \$6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Origination Inc, \$12,000, "Comparing the Effects of Different Phytase Sources on the Growth Performance and Bone Mineralization of Nursery Pigs."

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Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, PIC North America (PIC USA, Inc.), \$12,000, "PIC Student Fellowship."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Pipestone Grow Finish, \$12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Purco, \$5,400, "PURCO Project."

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Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, SVC Research, LLC, \$16,000, "KSU Applied Swine Nutrition Fellowship."

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Tokach, Michael D., DeRouchey, Joel M., Goodband, Robert D., Lattimer, James M., and **Woodworth, Jason C.**, Syngenta Seeds, Inc., \$8,000, "Evaluation of High Amylase Corn on Growth Performance and Carcass Characteristics of Grow-finish Pigs."

Tokach, Michael D., Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Syngenta Seeds, Inc., \$900, "Evaluation of Pelleting of High Amylase Corn on Starch Gelatinization."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), and **Woodworth, Jason C.**, Syngenta Seeds, Inc., \$24,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, United Soybean Board, \$17,736, "Benefit of High Levels of Soybean Meal in Diets Fed on Commercial Swine Farms."

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Tokach, Michael D., (Diagnostic Medicine/Pathobiology), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$22,500, "Improved Pig Health and Nutrition: The Major Drivers of Profitability and Sustainability for Smallholder Farmers in Cambodia."

Trinetta, Valentina, Gragg, Sara E., Phebus, Randall K., and **Vipham, Jessie** (Dean of Agriculture and Director of AES), HEPACART Inc., \$4,164, "Quantifying the Reduction of Shiga Toxin-Producing Escherichia coli (STEC) and Salmonella Populations on beef tissues subjected to HEPACART Technology."

Trinetta, Valentina, Smith, J. Scott, and **Yucel, Umut**, US Department of Health and Human Services, \$12,035, "Development of Validation of Analytical and Physical Testing Methods to Evaluate the Irradiation History of Animal Feeds."

Weaber, Robert L., Amrine, David E. (Dean of Veterinary Medical Center), **Larson, Robert L.** (Clinical Sciences), **Pendell, Dustin L.** (Agricultural Economics), and **White, Bradley J.** (Dean of Veterinary Medical Center), American Angus Association, \$18,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

Weaber, Robert L., Bormann, Jennifer M., and **Rolf, Megan**, Angus Genetics Inc, \$46,991, "Quantitative Genetics and Genomic Analysis of Novel Traits in American Angus Cattle."

Weaber, Robert L., US Department of Agriculture, \$64,350, "Beef Cattle Production System Decision Support Tools to Enable Improved Genetic, Environmental, and Economic Resource Management."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Ajinomoto Heartland LLC, \$8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Biomin America Inc., \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, CEVA Biomune, \$21,298, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, CJ America, Inc., \$5,000, "Determining the Effects of Tryptophan Biomass on Growth Performance of 25- to 50- lb Nursery Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, CJ America, Inc., \$6,000, "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, DSM Nutritional Products AG, \$6,000, "Determining the Effects of High Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, ICM, Inc., \$5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, ICM, Inc., \$16,000, "Evaluation of High-Protein Distillers Dried Grains on Growth Performance and Carcass Characteristics of Growing-Finishing Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Iowa Select Farms, \$12,000, "Iowa Select Student Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Jefe Nutrition, Inc., \$9,000, "Determining the Effects of Xylanase on Growth Performance, Carcass Characteristics, and Economics of Growing-finishing Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Kemin Industries, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Micronutrients, \$8,000, "Effects of Feeding Intellibond CII Throughout Finishing or Via a Withdrawal Strategy on Finishing Pig Growth Performance, Carcass Characteristics, and Economic Return."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Micronutrients, \$12,000, "Micronutrients Student Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., and Tokach, Michael D., National Pork Board, \$33,220, "An Integrated Approach to Improve Whole Herd Pig Survivability."

Woodworth, Jason C., Jones, Cassandra K., Li, Yonghai (Grain Science and Industry), **Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), and **Tokach, Michael D.,** National Pork Board, \$4,003, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** National Pork Board, \$87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** National Pork Board, \$20,721 (includes \$6,000 from 3rd Party Match), "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.,** National Pork Board, \$5,726, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** New Fashion Pork, \$6,400, "New Fashion Pork Student Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** NutriQuest, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** OLMIX, \$6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** Origination Inc, \$12,000, "Comparing the Effects of Different Phytase Sources on the Growth Performance and Bone Mineralization of Nursery Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** Origination Inc, \$12,000, "Determination of Efficacy of a Novel Phytase Source in Nursery Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** PIC North America (PIC USA, Inc.), \$12,000, "PIC Student Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** Pipestone Grow Finish, \$12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.,** and **Tokach, Michael D.,** Purco, \$5,400, "PURCO Project."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), and **Jones, Cassandra K.,** Purina Animal Nutrition, LLC, \$10,444, "Assessing the Effects of MCFA on PEDV Quantity and Infectivity-Phase 3 Bioassay."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Sustainable Nutrition S.I., \$5,000, "Effect of Supplementation of Monomix and/or ZnO on Growth Performance of Nursery Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, SVC Research, LLC, \$16,000, "KSU Applied Swine Nutrition Fellowship."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., and Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), Swine Health Information Center, \$8,702, "A Validated Method to Test Bulk Feed Products and Applying it to Monitoring Shipments for Pathogen Contamination."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., and Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), Swine Health Information Center, \$5,159, "Assessing Distribution and Mitigation of Senecavirus A, a Foot and Mouth Disease Surrogate, in a Swine Feed Mill."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, Swine Health Information Center, \$421, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Woodworth, Jason C., DeRouchey, Joel M., Goodband, Robert D., Lattimer, James M., and Tokach, Michael D., Syngenta Seeds, Inc., \$8,000, "Evaluation of High Amylase Corn on Growth Performance and Carcass Characteristics of Grow-finish Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), and **Tokach, Michael D.**, Syngenta Seeds, Inc., \$24,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, United Soybean Board, \$17,736, "Benefit of High Levels of Soybean Meal in Diets Fed on Commercial Swine Farms."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, United Soybean Board, \$9,699, "Determining the Productive Energy Content of Soybean Meal."

Yucel, Umut, US Department of Agriculture, \$150,000, "Functional Properties of Sorghum Biomolecules Related to Human Health Benefits."

Yucel, Umut, Smith, J. Scott, and Trinetta, Valentina, US Department of Health and Human Services, \$72,212, "Development of Validation of Analytical and Physical Testing Methods to Evaluate the Irradiation History of Animal Feeds."

COMMUNICATIONS AND AGRICULTURAL EDUCATION

Disberger, Brandie S., Hock, Gaea, and Ulmer, Jonathan, Kansas Corn Commission, \$4,559, "Enhancing Pre-Service Instruction with corn (Ag Ed EPIC Experience)."

Hock, Gaea, Disberger, Brandie S., and Ulmer, Jonathan, Kansas Corn Commission, \$4,697, "Enhancing Pre-Service Instruction with corn (Ag Ed EPIC Experience)."

Hock, Gaea, Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics),

Hutchinson, Stacy L. (Biological and Agricultural Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$179,902, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Ulmer, Jonathan, Disberger, Brandie S., and Hock, Gaea, Kansas Corn Commission, \$4,559, "Enhancing Pre-Service Instruction with corn (Ag Ed EPIC Experience)."

Ulmer, Jonathan, Bhadriraju, Subramanyam (Grain Science and Industry), **Campabadal Teran, Carlos** (Grain Science and Industry), **Harvey, Jagger J.** (Dean of Agriculture and Director of AES), **Leslie, John F.** (Plant Pathology), **Lilja, Nina K.** (International Agricultural Programs), and **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

DEAN OF AGRICULTURE AND DIRECTOR OF AES

Dalton, Timothy J., US Agency for International Development, \$184,057, "Implement a Genomics-Assisted Breeding Program in a Small Breeding Program in a Developing Country."

Dalton, Timothy J., US Agency for International Development, \$3,030,554, "The Management Entity of the Sorghum and Millet Innovation Lab."

Harvey, Jagger J., Bhadriraju, Subramanyam (Grain Science and Industry), **Campabadal Teran, Carlos** (Grain Science and Industry), **Leslie, John F.** (Plant Pathology), **Lilja, Nina K.** (International Agricultural Programs), **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), and **Ulmer, Jonathan** (Communications and Agricultural Education), US Agency for International Development, \$445,762, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Harvey, Jagger J., and Lilja, Nina K. (International Agricultural Programs), US Agency for International Development, \$905,355, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Middendorf, B. Jan, and Pagadala, Venkata, Acharya N.G. Ranga Agricultural University, \$90,090, "Capacity Building of Students of Acharya N.G. Ranga Agricultural University at Kansas State University."

Middendorf, B. Jan, Pagadala, Venkata, and Shuman, Cindy (Dean of Education), National Science Foundation, \$46,552, "International Network-to-Network (N2N) Stakeholder Collaboration Workshop: Solutions to Accelerate Research, Leverage Resources, and Maximize Synergies."

Minton, J. Ernest, and Peters, Paula (Director of Cooperative Extension), University of Missouri, "Memorandum of Agreement."

Pagadala, Venkata, and Middendorf, B. Jan, Acharya N.G. Ranga Agricultural University, \$90,090, "Capacity Building of Students of Acharya N.G. Ranga Agricultural University at Kansas State University."

Pagadala, Venkata, Reyes, Manuel R., and Stewart, Zachary P., Epsilon Sigma Phi, \$100, "Epsilon Sigma Phi (ESP), CE SAIN Scholars: Increasing Opportunities for Cambodian Youth to Pursue Careers in Agricultural Extension (PILOT)."

Pagadala, Venkata, Reyes, Manuel R., and Stewart, Zachary P., International Fertilizer Development Center, \$49,971, "Developing a Highly Productive and Sustainable Conservation Agriculture Production System for Cambodia and Myanmar."

Pagadala, Venkata, and Stewart, Zachary P., International Fertilizer Development Center, \$21,998, "Sustainable Opportunities for Improving Livelihoods with Soil (SOILS) Consortium."

Pagadala, Venkata, Middendorf, B. Jan, and Shuman, Cindy (Dean of Education), National Science Foundation, \$46,552, "International Network-to-Network (N2N) Stakeholder Collaboration Workshop: Solutions to Accelerate Research, Leverage Resources, and Maximize Synergies."

Pagadala, Venkata, and Reyes, Manuel R., United Service Foundation Inc., \$1,000, "Center of Excellence on Sustainable Agricultural Intensification and Nutrition Reasmeey Sophornna High School Undergraduate Scholarships."

Pagadala, Venkata, and Reyes, Manuel R., United Service Foundation Inc., \$950, "Promoting the Adoption of Conservation Agriculture with Trees in Guatemala."

Pagadala, Venkata, and Stewart, Zachary P., US Agency for International Development, \$5,000, "Enhancing Resilience and Nutrition in the Peanut Basin of Senegal through Integration of Newly Release, Improved Cowpea Varieties."

Pagadala, Venkata, and Lilja, Nina K. (International Agricultural Programs), US Agency for International Development, \$2,100,000, "Feed the Future Policy Impacts Study Associate Award."

Pagadala, Venkata, and Lilja, Nina K. (International Agricultural Programs), US Agency for International Development, \$7,193,000, "Innovation Lab on Sustainable Intensification."

Pagadala, Venkata, and Reyes, Manuel R., US Agency for International Development, "Scaling Up Drip Irrigation, Conservation Agriculture and Rainwater Harvesting for Commercial Vegetable Home Gardens to Specially Benefit Women and Youth."

Reyes, Manuel R., Pagadala, Venkata, and Stewart, Zachary P., Epsilon Sigma Phi, \$400, "Epsilon Sigma Phi (ESP), CE SAIN Scholars: Increasing Opportunities for Cambodian Youth to Pursue Careers in Agricultural Extension (PILOT)."

Reyes, Manuel R., Pagadala, Venkata, and Stewart, Zachary P., International Fertilizer Development Center, \$24,986, "Developing a Highly Productive and Sustainable Conservation Agriculture Production System for Cambodia and Myanmar."

Reyes, Manuel R., and Pagadala, Venkata, United Service Foundation Inc., \$9,000, "Center of Excellence on Sustainable Agricultural Intensification and Nutrition Reasmeey Sophornna High School Undergraduate Scholarships."

Reyes, Manuel R., United Service Foundation Inc., \$15,000, "Promoting the Adoption of Conservation Agriculture with Trees in Guatemala."

Reyes, Manuel R., and Pagadala, Venkata, United Service Foundation Inc., \$8,550, "Promoting the Adoption of Conservation Agriculture with Trees in Guatemala."

Reyes, Manuel R., and Pagadala, Venkata, US Agency for International Development, \$138,940, "Scaling Up Drip Irrigation, Conservation Agriculture and Rainwater Harvesting for Commercial Vegetable Home Gardens to Specially Benefit Women and Youth."

Sexton-Bowser, Sarah A., Ciampitti, Ignacio (Agronomy), and **Morris, Geoffrey** (Agronomy), Foundation for Food and Agriculture Research, \$363,818 (includes \$113,923 from Multi-Source Match), "Bridging the Genome-to-Phenome Breeding Gap for Water-Efficient Crop Yields (G2P Bridge)."

Sexton-Bowser, Sarah A., and Minton, J. Ernest (Agricultural Experiment Station), US Department of Agriculture, \$27,500, "Acquisition of Goods and Services."

Sexton-Bowser, Sarah A., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$4,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

Sexton-Bowser, Sarah A., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$3,500, "Impact of Great Plains Production System on Sustainable Production of Grain Sorghum Cooperating with Lubbock, Texas."

Stewart, Zachary P., Pagadala, Venkata, and **Reyes, Manuel R.**, Epsilon Sigma Phi, \$4,500, "Epsilon Sigma Phi (ESP), CE SAIN Scholars: Increasing Opportunities for Cambodian Youth to Pursue Careers in Agricultural Extension (PILOT)."

Stewart, Zachary P., Pagadala, Venkata, and **Reyes, Manuel R.**, International Fertilizer Development Center, \$24,986, "Developing a Highly Productive and Sustainable Conservation Agriculture Production System for Cambodia and Myanmar."

Stewart, Zachary P., and **Pagadala, Venkata,** International Fertilizer Development Center, \$197,980, "Sustainable Opportunities for Improving Livelihoods with Soil (SOILS) Consortium."

Stewart, Zachary P., and **Pagadala, Venkata,** US Agency for International Development, \$45,000, "Enhancing Resilience and Nutrition in the Peanut Basin of Senegal through Integration of Newly Release, Improved Cowpea Varieties."

Stewart, Zachary P., DeRouchey, Joel M. (Animal Sciences and Industry), **Rivard, Cary L.** (Horticulture and Natural Resources), **Sampson, Gabriel S.** (Agricultural Economics), and **Vipham, Jessie,** US Agency for International Development, \$92,828, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Stewart, Zachary P., Ciampitti, Ignacio (Agronomy), **Esser, Andrew R.** (Agronomy), **Haag, Lucas A.** (Northwest Area Office), **Holman, Johnathon D.** (Southwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), and **Roozeboom, Kraig L.** (Agronomy), US Department of Agriculture, \$2,575, "Sustainable Field Pea Cropping Systems for the Great Plains."

Vipham, Jessie, Bill and Melinda Gates Foundation, \$140,935, "Ensuring the Safety and Quality of Milk and Dairy Products Across the Dairy Value Chain in Ethiopia."

Vipham, Jessie, Gragg, Sara E. (Animal Sciences and Industry), **Phebus, Randall K.** (Animal Sciences and Industry), and **Trinetta, Valentina** (Animal Sciences and Industry), HEPACART Inc., \$4,164, "Quantifying the Reduction of Shiga Toxin-Producing Escherichia coli (STEC) and Salmonella Populations on beef tissues subjected to HEPACART Technology."

Vipham, Jessie, (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.** (Animal Sciences and Industry), US Agency for International Development, \$7,500, "Improved Pig Health and Nutrition: The Major Drivers of Profitability and Sustainability for Smallholder Farmers in Cambodia."

Vipham, Jessie, Bradford, Barry J. (Animal Sciences and Industry), **Min, Doohong** (Agronomy), **O'Quinn, Travis G.** (Animal Sciences and Industry), and **Pendell, Dustin L.** (Agricultural Economics), US Agency for International Development, \$98,162, "Linking Cattle Nutrition to Human Nutrition: A Value Chain Approach to Improving the Production, Handling, and Consumption of Animal Source Foods in Ethiopia."

Vipham, Jessie, DeRouchey, Joel M. (Animal Sciences and Industry), **Rivard, Cary L.** (Horticulture and Natural Resources), **Sampson, Gabriel S.** (Agricultural Economics), and **Stewart, Zachary P.**, US Agency for

International Development, \$139,243, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Vipham, Jessie, Gragg, Sara E. (Animal Sciences and Industry), and **Nwadike, Londa S.** (Director of Cooperative Extension), US Department of Agriculture, \$59,810, "Capacity Building and Development for Food Safety in Bangladesh: Creative Approaches to Train-the-Trainer Programs for Hazard Analysis Critical Control Points (HACCP)."

Wiley, Zelia Z., Choma, Kimathi I. (Dean of Arts and Sciences), **Grauer, Bette** (Dean of Engineering), **Montelone, Beth A.** (Office of Research Development), and **Taber, Charles** (Office of the Provost), National Science Foundation, \$67,511, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

ENTOMOLOGY

Cloyd, Raymond A., Joseph H Hill Memorial Foundation Inc., \$15,000, "Effect of Application Frequency and Spray Volume of Insecticides on Citrus Mealybugs."

Cloyd, Raymond A., Boyer, Cheryl R. (Horticulture and Natural Resources), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A., Kennelly, Megan** (Plant Pathology), **McCornack, Brian P., Miller, Frannie L., Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke, Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Research Extension Center), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Johnson, Wendy A., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A., DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P., Miller, Frannie L., Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke, Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Research Extension Center), US Department of Agriculture, \$19,370, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Kim, Tania, and Spiesman, Brian J., The Land Institute, \$11,979, "Living on the Edge: Determining the Potential of Multipurpose Perennial Crops as Habitat for Native Pollinators and Natural Enemies."

Kim, Tania, and Spiesman, Brian J., US Department of Agriculture, \$49,929, "Does Resource Continuity at a Landscape Scale Benefit Natural Enemies and Biocontrol?."

Londono, Berlin L., Uniformed Services University of Health Sciences, \$6,889, "Mosquito Vector Exposure in DoD Beneficiaries Going to High-Risk Regions for Malaria or Arboviral Infections."

Londono, Berlin L., US Department of Agriculture, \$84,500, "The Role of Virus-vector Interactions in Emerging Vesicular Stomatitis Virus Outbreaks."

Londono, Berlin L., US Department of Defense, \$21,798, "Malaria Surveillance in Endemic Regions of Colombia."

McCornack, Brian P., and Ciampitti, Ignacio (Agronomy), Kansas Corn Commission, \$52,335, "Beyond the Summer Science Institute-Using Corn in the Curriculum to Advance Inquiry-Based Learning."

McCornack, Brian P., and Alberto, Jamie (Curriculum and Instruction), Kansas Corn Commission, \$35,853, "Crops, Insects, and Agroecosystems - A New Course Offering for Elementary Education Majors at Kansas State University."

McCornack, Brian P., Kansas Soybean Commission, \$56,198, "Agricultural Research Experiences for Teachers (RET) - Using Soybean as a Model System."

McCornack, Brian P., Smith, C. Michael, and Whitworth, Robert "Jeff" J., Kansas Soybean Commission, \$24,000, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

McCornack, Brian P., Ciampitti, Ignacio (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), **Jardine, Douglas J.** (Plant Pathology), **Knapp, Mary C.** (Agronomy), **O'Brien, Daniel M.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Soybean Commission, \$1,375, "Improving Soybean Yields by Enhancing Seed Filling."

McCornack, Brian P., North Central Soybean Research Program, \$10,000, "Soybean Entomology Research and Extension in the North Central Region."

McCornack, Brian P., US Department of Agriculture, \$120,325, "Areawide Pest Management of the Invasive Sugarcane Aphid in Grain Sorghum."

McCornack, Brian P., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A., DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A., Kennelly, Megan** (Plant Pathology), **Miller, Frannie L., Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke, Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Research Extension Center), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

McCornack, Brian P., Flippo, Daniel (Biological and Agricultural Engineering), and **Sharda, Ajay** (Biological and Agricultural Engineering), US Department of Agriculture, \$238,388, "NRI: INT: COLLAB: An Autonomous Insect Sense, Identify, and Manage PPlatform (SIMPL) to Advance Crop Protection Strategies."

Michaud, John P., US Department of Agriculture, \$49,647, "Areawide Pest Management of the Invasive Sugarcane Aphid in Grain Sorghum - Kansas, Sugarcane Aphid Monitoring and Biocontrol."

Miller, Frannie L., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A., DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A., Kennelly, Megan** (Plant Pathology), **McCornack, Brian P., Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke, Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$35,974, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Miller, Frannie L., US Environmental Protection Agency, \$20,025, "Pesticide Safety Education 2019."

Park, Yoonseong, US Department of Agriculture, \$118,150, "Fly-microbe Interactions Across Life History."

Park, Yoonseong, Silver, Kristopher S., and Zhu, Kun Yan, US Department of Agriculture, \$25,000, "Using Insect Exosomes to Increase RNAi Efficiency in Pest Insects."

Park, Yoonseong, and Fleming, Sherry D. (Biology), US Department of Defense, \$266,000, "Tick Bites in Transmission of the Alpha Gal Allergen Eliciting Red Meat Allergy."

Park, Yoonseong, Ng, Ho Leung (Biochemistry), and **Prakash, Om** (Biochemistry), US Department of Health and Human Services, \$132,832, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Phillips, Thomas W., US Department of Agriculture, \$102,630, "Improved Trapping and Detection Tools for Khapra Beetle."

Phillips, Thomas W., and **Zhu, Kun Yan**, US Department of Agriculture, \$30,000, "Postharvest Pest Control using Oxygenated Phosphine Fumigation and Nitric Oxide Fumigation."

Ruberson, John R., Support Funds, \$48,000, "AEN Support Funds Off-Campus 26."

Ruberson, John R., Support Funds, \$66,000, "AEN Support Funds Research 50."

Silver, Kristopher S., US Department of Agriculture, \$174,900, "Novel Techniques for Culicoides Vector Control and Evaluation."

Silver, Kristopher S., **Park, Yoonseong**, and **Zhu, Kun Yan**, US Department of Agriculture, \$60,000, "Using Insect Exosomes to Increase RNAi Efficiency in Pest Insects."

Smith, C. Michael, **McCornack, Brian P.**, and **Whitworth, Robert "Jeff" J.**, Kansas Soybean Commission, \$24,000, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

Smith, C. Michael, US Department of Agriculture, \$216,568, "Principles Underlying the Spread of Sorghum Halepense, Toward its Containment and Mitigation."

Spiesman, Brian J., and **Kim, Tania**, The Land Institute, \$11,979, "Living on the Edge: Determining the Potential of Multipurpose Perennial Crops as Habitat for Native Pollinators and Natural Enemies."

Spiesman, Brian J., and **Kim, Tania**, US Department of Agriculture, \$49,929, "Does Resource Continuity at a Landscape Scale Benefit Natural Enemies and Biocontrol?."

Stiffler, Brooke, **Boyer, Cheryl R.** (Horticulture and Natural Resources), **Cloyd, Raymond A.**, **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.**, **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.**, **Miller, Frannie L.**, **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Whitworth, Robert "Jeff" J., **McCornack, Brian P.**, and **Smith, C. Michael**, Kansas Soybean Commission, \$12,000, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

Whitworth, Robert "Jeff" J., US Department of Agriculture, \$100,000, "Functions of Hessian Fly Effector Proteins in Wheat."

Zhu, Kun Yan, US Department of Agriculture, \$26,938, "Acquisition of Goods and Services."

Zhu, Kun Yan, US Department of Agriculture, \$46,475, "Acquisition of Goods and Services."

Zhu, Kun Yan, US Department of Agriculture, \$170,400, "Improving Management of Stored Grain Through a Greater Understanding of Stored Product Insect Behavior."

Zhu, Kun Yan, and **Phillips, Thomas W.**, US Department of Agriculture, \$30,000, "Postharvest Pest Control using Oxygenated Phosphine Fumigation and Nitric Oxide Fumigation."

Zhu, Kun Yan, Park, Yoonseong, and Silver, Kristopher S., US Department of Agriculture, \$15,000, "Using Insect Exosomes to Increase RNAi Efficiency in Pest Insects."

Zolnerowich, Gregory, and Zukoff, Sarah N. (Southwest Research Extension Center), Kansas Department of Wildlife and Parks, \$2,500, "Proposal for a Statewide Survey of Bumble Bees (Hymenoptera, Apidae Bombus) Occurring in Kanas."

GRAIN SCIENCE AND INDUSTRY

Aldrich, Greg, and Dhakal, Janak, Fats and Proteins Research Foundation, Inc., \$25,120, "The Effect of Chemical Treatments to Control Salmonella Species in Rendered Animal Fats and Oils and Determination of Survival Kinetics of Salmonella in Fats Differing in Level of Unsaturation."

Aldrich, Greg, Campabadal Teran, Carlos, and Thiele, Shawn M., Hill's Pet Nutrition, Inc., \$14,132, "Commercial Pet Food Industry for Veterinary Clinical Nutritionists."

Aldrich, Greg, Hill's Pet Nutrition, Inc., \$148,877, "Developing Processes to Produce Resistant Starch in a Complex Food Matrix (pet food) for the Purpose of Altering Colonic Fermentation End Products that Benefit Animal Health."

Aldrich, Greg, Dhakal, Janak, and Siliveru, Kaliramesh, Jones-Hamilton Company, \$55,483, "Assessing the Efficacy of Addition of Sodium Bisulfate (SBS) in Tempering Water to Control E. coli (STEC) in Wheat."

Aldrich, Greg, and Dhakal, Janak, Jones-Hamilton Company, \$52,953, "Assessing the Efficacy of Addition of Sodium Bisulfate (SPS) in Stored Wheat Grains to Control Fungus."

Aldrich, Greg, Kansas State University Foundation, \$45,000, "Bill Barr and Kim Rock Professorship in Pet Food and Nutrition."

Aldrich, Greg, and Dhakal, Janak, Kerry Inc., \$97,563, "Evaluation of Antimycotic and Acaricidal Effects of Liquid Smoke Preparations in Semi-moist Pet Food."

Aldrich, Greg, Kerry Inc., \$109,093, "Evaluation of Formulation and Processing on Bacillus Coagulans GBI-30, 6086 (GanedenBC30®) Survivability, and Impacts on Microbial Fermentation and Nutrient Digestibility in Dogs."

Bhadriraju, Subramanyam, Campabadal Teran, Carlos, Harvey, Jagger J. (Dean of Agriculture and Director of AES), **Leslie, John F.** (Plant Pathology), **Lilja, Nina K.** (International Agricultural Programs), **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), and **Ulmer, Jonathan** (Communications and Agricultural Education), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Blodgett, Paul E., and Smith, Gordon L., General Mills, Inc., \$3,836, "Project Charge - Service Task Order #1."

Blodgett, Paul E., Smith, Gordon L., and Thiele, Shawn M., Novozymes A/S, \$3,730, "Novozymes Miag Testing."

Campabadal Teran, Carlos, Aldrich, Greg, and Thiele, Shawn M., Hill's Pet Nutrition, Inc., \$14,132, "Commercial Pet Food Industry for Veterinary Clinical Nutritionists."

Campabadal Teran, Carlos, Smith, Gordon L., and Thiele, Shawn M., Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

Campabadal Teran, Carlos, Bhadriraju, Subramanyam, Harvey, Jagger J. (Dean of Agriculture and Director of AES), **Leslie, John F.** (Plant Pathology), **Lilja, Nina K.** (International Agricultural Programs), **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), and **Ulmer, Jonathan** (Communications and Agricultural

Education), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Department of Agriculture, \$31,106, "Cochran Fellowship Program on US Sorghum Program for Vietnam."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Department of Agriculture, \$38,066, "Cochran Program on Quality Standards and Utilization of U.S. Feed Ingredients Cambodia, Vietnam, Malaysia."

Campabadal Teran, Carlos, US Grains Council, \$20,000, "U.S. Corn Storage in Tropical Weather Locations."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$42,750, "Addendum to Independent Contract Master Agreement: 19KA08F54A."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$61,200, "Addendum to Independent Contractor Master Agreement: 19KA08F54B."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$25,740, "Addendum to Independent Contractor Master Agreement: 19KA05F54A."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$21,600, "Addendum to Independent Contractor Master Agreement: 19KA08U74A."

Dhakal, Janak, and Aldrich, Greg, Fats and Proteins Research Foundation, Inc., \$25,120, "The Effect of Chemical Treatments to Control Salmonella Species in Rendered Animal Fats and Oils and Determination of Survival Kinetics of Salmonella in Fats Differing in Level of Unsaturation."

Dhakal, Janak, Aldrich, Greg, and Siliveru, Kaliramesh, Jones-Hamilton Company, "Assessing the Efficacy of Addition of Sodium Bisulfate (SBS) in Tempering Water to Control E. coli (STEC) in Wheat."

Dhakal, Janak, and Aldrich, Greg, Jones-Hamilton Company, "Assessing the Efficacy of Addition of Sodium Bisulfate (SPS) in Stored Wheat Grains to Control Fungus."

Dhakal, Janak, and Aldrich, Greg, Kerry Inc., "Evaluation of Antimycotic and Acaricidal Effects of Liquid Smoke Preparations in Semi-moist Pet Food."

Li, Yonghai, Jones, Cassandra K. (Animal Sciences and Industry), **Paulk, Chad B., Stark, Charles, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$4,003, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Li, Yonghui, State of Oklahoma, \$18,700, "Wheat Testing."

Li, Yonghui, Ukko Inc., \$35,117, "Project 1 - Identify Minimal Amounts of Gliadin, HMW and LMW Glutenin Needed for Bread Quality Dough."

Paulk, Chad B., and Gonzalez, John M. (Animal Sciences and Industry), Ani-Tek Group, \$12,000, "The Effects of Nicotinamide Riboside Chloride on Growth Performance of Broilers."

Paulk, Chad B., and Stark, Charles, CJ America, Inc., \$3,383, "Effects of Including Valine and Isoleucine in Poultry Diets on Pellet Quality."

Paulk, Chad B., Beyer, R. Scott (Animal Sciences and Industry), and **Stark, Charles**, Illinois Soybean Association, \$7,239, "Evaluation of Soybean Meal from Illinois Soybeans."

Paulk, Chad B., and Stark, Charles, Intrexon Corporation, \$76,000, "Intrexon Nursery Pig Study."

Paulk, Chad B., and Stark, Charles, Intrexon Corporation, \$11,385, "Stability of Intrexon Active Compounds in Pelleted Feed."

Paulk, Chad B., Beyer, R. Scott (Animal Sciences and Industry), **Gonzalez, John M.** (Animal Sciences and Industry), and **Stark, Charles**, Kerry Luxembourg S.a.r.l., \$18,000, "Testing and Evaluation Services Agreement - Study 3002."

Paulk, Chad B., Beyer, R. Scott (Animal Sciences and Industry), **Gonzalez, John M.** (Animal Sciences and Industry), and **Stark, Charles**, Kerry Luxembourg S.a.r.l., \$8,403, "Testing and Evaluation Services Agreement - Study Number 2008."

Paulk, Chad B., Lattimer, James M. (Animal Sciences and Industry), and **Stark, Charles**, Milne Fruit Products, \$1,291, "Milne Fruit Blueberry Pellet."

Paulk, Chad B., Jones, Cassandra K. (Animal Sciences and Industry), **Li, Yonghai, Stark, Charles, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$52,040, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Paulk, Chad B., Drouillard, James S. (Animal Sciences and Industry), and **Lattimer, James M.** (Animal Sciences and Industry), Syngenta Crop Protection, LLC, \$177,057, "Steam Flaking."

Paulk, Chad B., Stark, Charles, and Tokach, Michael D. (Animal Sciences and Industry), Syngenta Seeds, Inc., \$16,200, "Evaluation of Pelleting of High Amylase Corn on Starch Gelatinization."

Paulk, Chad B., DeRouchey, Joel M. (Animal Sciences and Industry), **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.** (Animal Sciences and Industry), **Stark, Charles, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Syngenta Seeds, Inc., \$24,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

Regan, Rebecca A., Siliveru, Kaliramesh, and Watt, Jason W., Indigo Ag, Inc., \$36,425, "Impact of Flour Granulation on the Final Products."

Shi, Yong Cheng, Nisshin Flour Milling Inc., \$37,000, "Memorandum of Agreement with Nisshin Flour Milling, Inc."

Shi, Yong Cheng, Tate & Lyle Ingredients Americas LLC, \$137,910, "Developing Clean Label Flour and Modified Starch."

Siliveru, Kaliramesh, and Watt, Jason W., Indigo Ag, Inc., \$29,404, "Evaluating the Impact of Indigo Microbial Treatment and Wheat Variety on Tempering Times."

Siliveru, Kaliramesh, Regan, Rebecca A., and Watt, Jason W., Indigo Ag, Inc., \$48,566, "Impact of Flour Granulation on the Final Products."

Siliveru, Kaliramesh, and Watt, Jason W., Indigo Ag, Inc., \$14,881, "Significance of Indigo Microbial Treatment on the Protein Content of the Flour."

Siliveru, Kaliramesh, Aldrich, Greg, and Dhakal, Janak, Jones-Hamilton Company, \$6,165, "Assessing the Efficacy of Addition of Sodium Bisulfate (SBS) in Tempering Water to Control E. coli (STEC) in Wheat."

Silveru, Kaliramesh, US Department of Agriculture, \$37,300, "Movement of Fumigant in Grain Bults."

Smith, Gordon L., and **Phebus, Randall K.** (Animal Sciences and Industry), General Mills, Inc., \$19,655, "Flour Safety: An Industry Collaboration Proposal for K-State Studies to Advance the Development of a Commercially Applied Antimicrobial Intervention [Study 1a)1]."

Smith, Gordon L., and **Blodgett, Paul E.**, General Mills, Inc., \$34,523, "Project Charge - Service Task Order #1."

Smith, Gordon L., Grain Elevator & Processing Society, \$182,189, "GEAPS~KSU MOU 3.0."

Smith, Gordon L., **Campabadal Teran, Carlos**, and **Thiele, Shawn M.**, Kansas Grain Sorghum Commission, \$20,000, "Market Development Grant - International Grains Program."

Smith, Gordon L., Kansas State University Foundation, \$42,000, "Grain Science and Industry Buhler Instructor of Milling."

Smith, Gordon L., **Blodgett, Paul E.**, and **Thiele, Shawn M.**, Novozymes A/S, "Novozymes Miag Testing."

Stark, Charles, and **Paulk, Chad B.**, CJ America, Inc., \$376, "Effects of Including Valine and Isoleucine in Poultry Diets on Pellet Quality."

Stark, Charles, **Beyer, R. Scott** (Animal Sciences and Industry), and **Paulk, Chad B.**, Illinois Soybean Association, \$426, "Evaluation of Soybean Meal from Illinois Soybeans."

Stark, Charles, and **Paulk, Chad B.**, Intrexon Corporation, \$4,000, "Intrexon Nursery Pig Study."

Stark, Charles, and **Paulk, Chad B.**, Intrexon Corporation, \$1,265, "Stability of Intrexon Active Compounds in Pelleted Feed."

Stark, Charles, **Beyer, R. Scott** (Animal Sciences and Industry), **Gonzalez, John M.** (Animal Sciences and Industry), and **Paulk, Chad B.**, Kerry Luxembourg S.a.r.l., \$1,500, "Testing and Evaluation Services Agreement - Study 3002."

Stark, Charles, **Beyer, R. Scott** (Animal Sciences and Industry), **Gonzalez, John M.** (Animal Sciences and Industry), and **Paulk, Chad B.**, Kerry Luxembourg S.a.r.l., \$700, "Testing and Evaluation Services Agreement - Study Number 2008."

Stark, Charles, **Lattimer, James M.** (Animal Sciences and Industry), and **Paulk, Chad B.**, Milne Fruit Products, \$1,330, "Milne Fruit Blueberry Pellet."

Stark, Charles, **Jones, Cassandra K.** (Animal Sciences and Industry), **Li, Yonghai**, **Paulk, Chad B.**, **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$12,009, "Determining how the pelleting process influences amino acid digestibility and availability for growth and carcass characteristics when feeding varying diets with increased levels of synthetic AA."

Stark, Charles, **Paulk, Chad B.**, and **Tokach, Michael D.** (Animal Sciences and Industry), Syngenta Seeds, Inc., \$900, "Evaluation of Pelleting of High Amylase Corn on Starch Gelatinization."

Stark, Charles, **DeRouchey, Joel M.** (Animal Sciences and Industry), **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.** (Animal Sciences and Industry), **Paulk, Chad B.**, **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Syngenta Seeds, Inc., \$6,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

Sun, X. Susan, and Wang, Donghai (Biological and Agricultural Engineering), US Department of Agriculture, \$68,360, "Effect of Sorghum Grain Components Fermentation and Co-Product Quality."

Thiele, Shawn M., Aldrich, Greg, and Campabadal Teran, Carlos, Hill's Pet Nutrition, Inc., \$18,843, "Commercial Pet Food Industry for Veterinary Clinical Nutritionists."

Thiele, Shawn M., Campabadal Teran, Carlos, and Smith, Gordon L., Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

Thiele, Shawn M., Blodgett, Paul E., and Smith, Gordon L., Novozymes A/S, \$5,595, "Novozymes Miag Testing."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Department of Agriculture, \$3,456, "Cochran Fellowship Program on US Sorghum Program for Vietnam."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Department of Agriculture, \$25,377, "Cochran Program on Quality Standards and Utilization of U.S. Feed Ingredients Cambodia, Vietnam, Malaysia."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$4,750, "Addendum to Independent Contract Master Agreement: 19KA08F54A."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$6,800, "Addendum to Independent Contractor Master Agreement: 19KA08F54B."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$2,860, "Addendum to Independent Contractor Master Agreement: 19KA05F54A."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$2,400, "Addendum to Independent Contractor Master Agreement: 19KA08U74A."

Watt, Jason W., and Siliveru, Kaliramesh, Indigo Ag, Inc., \$19,602, "Evaluating the Impact of Indigo Microbial Treatment and Wheat Variety on Tempering Times."

Watt, Jason W., Regan, Rebecca A., and Siliveru, Kaliramesh, Indigo Ag, Inc., \$36,425, "Impact of Flour Granulation on the Final Products."

Watt, Jason W., and Siliveru, Kaliramesh, Indigo Ag, Inc., \$22,321, "Significance of Indigo Microbial Treatment on the Protein Content of the Flour."

Zheng, Yi, National Science Foundation, \$501,800, "CAREER: Unravel the Nature Behind the Smart Polymer-Induced Microalgal Biomass Enrichment and Cell Wall Disruption."

HORTICULTURE AND NATURAL RESOURCES

Ahlers, Adam A., and Sharp, Ryan L., Association of Fish & Wildlife Agencies, \$2,450, "Evaluating the Promise and Potential Impacts of R3 Efforts Targeting College Students."

Ahlers, Adam A., US Department of the Interior, \$306,420, "Estimating Demographic Parameters of Muskrat Populations in Kansas."

Barden, Charles J., US Department of Agriculture, \$24,500, "Food and Water Systems Resiliency on the Kickapoo Tribe in Kansas Reservation."

Boyer, Cheryl R., Cloyd, Raymond A. (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared, Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology),

McCornack, Brian P. (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L., Stiffler, Brooke** (Entomology), **Upham, Ward S., and Zukoff, Sarah N.** (Southwest Research Extension Center), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Bremer, Dale J., Aguilar, Jonathan P. (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D., Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared, Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C., Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Cowan, Jeremy S., US Department of Agriculture, \$17,384, "Performance and Adoptability of Biodegradable Plastic Mulch for Sustainable Specialty Crop Production."

Ebert, Kerri L., and Hadley, Gregg L. (Director of Cooperative Extension), University of Minnesota, \$65,000, "Kansas SARE 2019-2020 PDP Plan of Work."

Fry, Jack D., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J., Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared, Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C., Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Fry, Jack D., Hoyle, Jared, and Kennelly, Megan (Plant Pathology), Golf Course Superintendents Association of America, \$6,400, "Zoysiagrass Seedhead Development and Suppression."

Fry, Jack D., Hoyle, Jared, and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$2,040, "Turf Research."

Fry, Jack D., Hoyle, Jared, and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$3,200, "Zoysiagrass Seedhead Development and Suppression."

Fry, Jack D., Hoyle, Jared, and Kennelly, Megan (Plant Pathology), Kansas Turfgrass Foundation, \$3,200, "Zoysiagrass Seedhead Development and Suppression."

Fry, Jack D., National Turfgrass Evaluation Program, Inc., \$1,500, "Research Support Agreement (Grant-In-Aid) for the 2016 National Perennial Ryegrass Test."

Fry, Jack D., and Kennelly, Megan (Plant Pathology), US Golf Association, Inc., \$13,307, "Development of Cold Hardy Zoysiagrass Cultivars for Golf Courses in the Transition Zone."

Fry, Jack D., US Golf Association, Inc., \$3,500, "Evaluation of Experimental Bermudagrasses in Kansas."

Griffin, Jason, Kansas Department of Agriculture, \$100,000, "Monitoring Soil Moisture and Irrigation Requirements for Industrial Hemp Production in Kansas."

Griffin, Jason, Schmidt, J. Frank, Family Charitable Foundation, \$5,000, "Evaluation of Ornamental Species for the Great Plains."

Griffin, Jason, Whitney, Donita L. (Management), and **Williams, Kimberly A.,** US Department of Agriculture, \$5,056, "Expansion of Blueberry Production in Kansas with Greenhouse and High Tunnel Growing Methods."

Hoyle, Jared, Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J., Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D., Golden, Bill B.** (Agricultural Economics), **Lamm,**

Freddie R. (Northwest Research Extension Center), **Lavis, Catherine C., Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Hoyle, Jared, Fry, Jack D., and Kennelly, Megan (Plant Pathology), Golf Course Superintendents Association of America, \$6,400, "Zoysiagrass Seedhead Development and Suppression."

Hoyle, Jared, Fry, Jack D., and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$1,980, "Turf Research."

Hoyle, Jared, Fry, Jack D., and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$3,200, "Zoysiagrass Seedhead Development and Suppression."

Hoyle, Jared, Fry, Jack D., and Kennelly, Megan (Plant Pathology), Kansas Turfgrass Foundation, \$3,200, "Zoysiagrass Seedhead Development and Suppression."

Hoyle, Jared, Support Funds, \$63,250, "AHF Support Funds Research 0."

Hoyle, Jared, Boyer, Cheryl R., Cloyd, Raymond A. (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L., Stiffler, Brooke** (Entomology), **Upham, Ward S., and Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Lavis, Catherine C., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J., Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D., Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared, Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Park, Sunghun, Heartland Plant Innovations, Inc., \$10,000, "Establishing a High-throughput Sorghum Transformation Program."

Park, Sunghun, and **Liu, Sanzhen** (Plant Pathology), National Science Foundation, \$483,306, "ECA-PGR: Under the Hood: The Genetic Components of Maize Regeneration."

Pliakoni, Eleni, and **Rivard, Cary L.,** US Agency for International Development, \$232,733 (includes \$22,552 from Third Party Match), "Capacity Building on Produce Postharvest Management in Tanzania."

Rivard, Cary L., and **Pliakoni, Eleni,** US Agency for International Development, "Capacity Building on Produce Postharvest Management in Tanzania."

Rivard, Cary L., DeRouchey, Joel M. (Animal Sciences and Industry), **Sampson, Gabriel S.** (Agricultural Economics), **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$30,943, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Rivard, Cary L., Gragg, Sara E. (Animal Sciences and Industry), and **Nwadike, Londa S.** (Director of Cooperative Extension), US Department of Agriculture, \$1,800, "Continued Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement."

Rivard, Cary L., and Skinner, Ashlee G., US Department of Agriculture, \$1,200, "Cover Cropping in High Tunnels and Belowground Arthropods."

Rivard, Cary L., Buller, Thomas J. (County Agents - Metropolitan Sector), **Kennelly, Megan** (Plant Pathology), and **Nwadike, Londa S.** (Director of Cooperative Extension), US Department of Agriculture, \$14,463, "Growing the Vegetable Producers Community with a Specialty Crop Growers Association."

Rivard, Cary L., Boyer, Cheryl R., Cloyd, Raymond A. (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared, Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Stiffler, Brooke** (Entomology), **Upham, Ward S., and Zukoff, Sarah N.** (Southwest Research Extension Center), US Department of Agriculture, \$13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Sharp, Ryan L., and Ahlers, Adam A., Association of Fish & Wildlife Agencies, \$2,450, "Evaluating the Promise and Potential Impacts of R3 Efforts Targeting College Students."

Sharp, Ryan L., US Department of Defense, \$6,600, "External Evaluation of the USACE Compendium of Questions and Associated Methods, Procedures, and User Guide Related to Collections of Information."

Sharp, Ryan L., US Department of the Interior, \$163,956, "Research to Evaluate Visitor Characteristics Across and Within Seasons at Joshua Tree National Park."

Skinner, Ashlee G., and Rivard, Cary L., US Department of Agriculture, \$10,799, "Cover Cropping in High Tunnels and Belowground Arthropods."

Upham, Ward S., Boyer, Cheryl R., Cloyd, Raymond A. (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared, Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L., Stiffler, Brooke** (Entomology), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Williams, Kimberly A., Griffin, Jason, and Whitney, Donita L. (Management), US Department of Agriculture, \$23,595, "Expansion of Blueberry Production in Kansas with Greenhouse and High Tunnel Growing Methods."

INTERNATIONAL AGRICULTURAL PROGRAMS

Lilja, Nina K., Bhadriraju, Subramanyam (Grain Science and Industry), **Campabadal Teran, Carlos** (Grain Science and Industry), **Harvey, Jagger J.** (Dean of Agriculture and Director of AES), **Leslie, John F.** (Plant Pathology), **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), and **Ulmer, Jonathan** (Communications and Agricultural Education), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Lilja, Nina K., and Harvey, Jagger J. (Dean of Agriculture and Director of AES), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Lilja, Nina K., and Pagadala, Venkata (Dean of Agriculture and Director of AES), US Agency for International Development, "Feed the Future Policy Impacts Study Associate Award."

Lilja, Nina K., and Pagadala, Venkata (Dean of Agriculture and Director of AES), US Agency for International Development, "Innovation Lab on Sustainable Intensification."

KS CTR FOR AG RSRCES & THE ENV / KS WATER RSRCE RSRCH INST

Devlin, Daniel L., City of Hays, KS, \$12,250, "Storm Water Educational Outreach Efforts."

Devlin, Daniel L., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J.** (Horticulture and Natural Resources), **Fry, Jack D.** (Horticulture and Natural Resources), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared** (Horticulture and Natural Resources), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C.** (Horticulture and Natural Resources), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$41,850, "Irrigation Innovation Consortium."

Devlin, Daniel L., Kansas Department of Health and Environment, \$70,000, "Kansas Watershed Specialists SFY17-19."

Devlin, Daniel L., and Golden, Bill B. (Agricultural Economics), Kansas Water Office, \$6,250, "Monitoring the Impacts of Sheridan County 6 Local Enhanced Management Area."

Devlin, Daniel L., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$41,109, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Devlin, Daniel L., Biles, Larry E. (Kansas Forest Service), **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), **Moorberg, Colby** (Agronomy), **Moore, Trisha L.** (Biological and Agricultural Engineering), and **Sheshukov, Aleksey Y.** (Biological and Agricultural Engineering), US Department of the Interior, \$38,451 (includes \$38,451 from In-Kind), "Kansas Water Resources Research Institute 2016."

NORTHWEST RESEARCH EXTENSION CENTER

Aiken, Robert M., Little, Christopher R. (Plant Pathology), **Morris, Geoffrey** (Agronomy), **Perumal, Ramasamy** (Agricultural Research Center-Hays), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$3,150, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

Aiken, Robert M., The Land Institute, \$10,100, "Water Productivity and Genetic Variation of Silghium Integrifolium."

Aiken, Robert M., Aguilar, Jonathan P. (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrcs & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R., Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$18,974, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Lamm, Freddie R., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J.** (Horticulture and Natural Resources), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrcs & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D.** (Horticulture and Natural Resources), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared** (Horticulture and Natural Resources), **Lavis, Catherine C.** (Horticulture and Natural Resources), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$13,500, "Irrigation Innovation Consortium."

Lamm, Freddie R., and Harmony, Keith R. (Agricultural Research Center-Hays), US Department of Agriculture, \$300,000, "Improving the Efficiency of Alfalfa Irrigation in the Great Plains Region with Subsurface Drip Irrigation."

Lamm, Freddie R., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M., Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$34,785, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

OFFICE OF ACADEMIC PROGRAMS

Boggs, Donald L., Kansas Department of Agriculture, \$15,000, "Development of an Agricultural Education Certification System and Promotion and General Agriculture."

PLANT BIOTECHNOLOGY CENTER

Akhunova, Alina, US Department of Agriculture, \$20,520, "Re-Sequencing of Major US Wheat Breeding Lines - Purchase Order."

Akhunova, Alina, US Department of Agriculture, \$20,520, "Re-sequencing of Major US Wheat Breeding Lines - Purchase Order."

Akhunova, Alina, and **Akhunov, Eduard D.** (Plant Pathology), US Department of Agriculture, \$58,000, "Validation, Characterization, and Deployment of QTL for Grain Yield Components in Wheat."

PLANT PATHOLOGY

Akhunov, Eduard D., Binational Agricultural Research and Development Fund (BARD), \$170,000, "Increasing the Spectrum of Genetic Variation Accessible for Wheat Breeding by Using Loss-of-Function Mutants of Anti-recombination Genes."

Akhunov, Eduard D., US Department of Agriculture, \$300,000, "BTT EAGER: A Pathway to Exploration of Epigenetic Variation in UK, US, and International Breeding Programs."

Akhunov, Eduard D., and **Trick, Harold N.,** US Department of Agriculture, \$258,400, "Genome Editing for Improving Wheat Yield and Yield-Related Traits."

Akhunov, Eduard D., and **Akhunova, Alina** (Plant Biotechnology Center), US Department of Agriculture, \$142,000, "Validation, Characterization, and Deployment of QTL for Grain Yield Components in Wheat."

Cook III, David E., US Department of Agriculture, \$687,000, "Deciphering the Control Network and Genome Dynamics during Fungal Plant Pathogenesis."

Cook III, David E., Kennelly, Megan, and **Mehra, Lucky K.,** US Department of Agriculture, \$76,134, "Pathways to Plant Health through Integrated FACT-driven Research and Extension Internships."

Cook III, David E., and **Draper, Martin A.,** US Department of Agriculture, \$65,000, "Wheat Rust Resistance and Biology Research."

Crain, Jared L., and **Poland, Jesse A.,** US Department of Agriculture, \$150,000, "BTT EAGER: Unified Big Data in Genomics and Phenomics for Plant Breeding."

DeWolf, Erick D., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan, McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), **Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

DeWolf, Erick D., Fritz, Allan K. (Agronomy), **Lollato, Romulo P.** (Agronomy), and **Rupp, Jessica**, US Department of Agriculture, \$86,422, "Prediction Models and Improved Pre-Harvest Estimates of Deoxynivalenol."

Draper, Martin A., Kennelly, Megan, and Todd, Timothy C., Support Funds, \$6,250, "APP Support Funds Research 52."

Draper, Martin A., US Department of Agriculture, \$43,340, "Acquisition of Goods and Services."

Draper, Martin A., and Cook III, David E., US Department of Agriculture, "Wheat Rust Resistance and Biology Research."

Draper, Martin A., US Department of Agriculture, \$39,500, "Wheat Rust Resistance Research."

Friebe, Bernd, and Koo, Dalhoe, US Department of Agriculture, \$16,975, "New Sources of Resistance to FHB and DON in Wheat."

Jardine, Douglas J., Ciampitti, Ignacio (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), **Knapp, Mary C.** (Agronomy), **McCornack, Brian P.** (Entomology), **O'Brien, Daniel M.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Soybean Commission, \$1,375, "Improving Soybean Yields by Enhancing Seed Filling."

Jardine, Douglas J., United Soybean Board, \$17,000, "Expanding the SCN Coalition."

Kennelly, Megan, Fry, Jack D. (Horticulture and Natural Resources), and **Hoyle, Jared** (Horticulture and Natural Resources), Golf Course Superintendents Association of America, \$3,200, "Zoysiagrass Seedhead Development and Suppression."

Kennelly, Megan, Fry, Jack D. (Horticulture and Natural Resources), and **Hoyle, Jared** (Horticulture and Natural Resources), Heart of America GCSA, \$1,980, "Turf Research."

Kennelly, Megan, Fry, Jack D. (Horticulture and Natural Resources), and **Hoyle, Jared** (Horticulture and Natural Resources), Heart of America GCSA, \$1,600, "Zoysiagrass Seedhead Development and Suppression."

Kennelly, Megan, Fry, Jack D. (Horticulture and Natural Resources), and **Hoyle, Jared** (Horticulture and Natural Resources), Kansas Turfgrass Foundation, \$1,600, "Zoysiagrass Seedhead Development and Suppression."

Kennelly, Megan, Support Funds, \$3,000, "APP Support Funds Research 0."

Kennelly, Megan, US Department of Agriculture, \$44,220, "Acquisition of Goods and Services."

Kennelly, Megan, Buller, Thomas J. (County Agents - Metropolitan Sector), **Nwadike, Londa S.** (Director of Cooperative Extension), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Department of Agriculture, \$7,232, "Growing the Vegetable Producers Community with a Specialty Crop Growers Association."

Kennelly, Megan, Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **DeWolf, Erick D., Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural

Resources), **Johnson, Wendy A.** (Entomology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), **Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Kennelly, Megan, Cook III, David E., and Mehra, Lucky K., US Department of Agriculture, \$190,336, "Pathways to Plant Health through Integrated FAcT-driven Research and Extension Internships."

Kennelly, Megan, and Fry, Jack D. (Horticulture and Natural Resources), US Golf Association, Inc., \$8,872, "Development of Cold Hardy Zoysiagrass Cultivars for Golf Courses in the Transition Zone."

Koo, Dalhoe, and Friebe, Bernd, US Department of Agriculture, \$7,275, "New Sources of Resistance to FHB and DON in Wheat."

Leslie, John F., International Institute for Tropical Agriculture, \$59,649, "Collaboration Agreement."

Leslie, John F., Bhadriraju, Subramanyam (Grain Science and Industry), **Campabadal Teran, Carlos** (Grain Science and Industry), **Harvey, Jagger J.** (Dean of Agriculture and Director of AES), **Lilja, Nina K.** (International Agricultural Programs), **Lindshield, Brian L.** (Food, Nutrition, Dietetics and Health), and **Ulmer, Jonathan** (Communications and Agricultural Education), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Little, Christopher R., Kansas Academy of Science, \$1,500, "KAS Graduate Research Grant - Afsana Noor."

Little, Christopher R., Roozeboom, Kraig L. (Agronomy), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$9,070, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

Little, Christopher R., Aiken, Robert M. (Northwest Research Extension Center), **Morris, Geoffrey** (Agronomy), **Perumal, Ramasamy** (Agricultural Research Center-Hays), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$3,150, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

Little, Christopher R., Perumal, Ramasamy (Agricultural Research Center-Hays), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$29,724, "Germplasm Screening, Host Interactions, and Lodging Resilience for Stalk Rot Disease in Kansas."

Little, Christopher R., Adey, Eric A. (Agronomy), and **Schapaugh Jr, William T.** (Agronomy), Kansas Soybean Commission, \$33,958, "Investigating SDS and Fusarium Root Rot Resistance, Preventive Seed Treatments, and Pathogen Variability in Kansas."

Little, Christopher R., Lin, Xiaomao (Agronomy), **Roozeboom, Kraig L.** (Agronomy), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$13,774, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Little, Christopher R., North Central Soybean Research Program, \$16,000, "Seedling Diseases: Biology, Management and Education."

Little, Christopher R., United Soybean Board, \$35,286, "Diseases of Soybean: Characterization and Education."

Liu, Sanzhen, and Park, Sunghun (Horticulture and Natural Resources), National Science Foundation, \$897,567, "ECA-PGR: Under the Hood: The Genetic Components of Maize Regeneration."

Liu, Sanzhen, US Department of Agriculture, \$700,000, "Analyses of Bacterial Avirulence and Virulence Loci and Host Resistance of Maize Goss's Wilt."

Mehra, Lucky K., Cook III, David E., and Kennelly, Megan, US Department of Agriculture, \$114,201, "Pathways to Plant Health through Integrated FACT-driven Research and Extension Internships."

Poland, Jesse A., BASF Corporation, \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Bay State Milling Company, \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Bill and Melinda Gates Foundation, \$243,272, "Delivering Genetic Gain in Wheat."

Poland, Jesse A., Colorado Wheat Administrative Committee, \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Indigo Ag, Inc., \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Kansas Department of Agriculture, \$160,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Kansas Wheat Alliance, Inc., \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Kansas Wheat Commission, \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., Monsanto Company, \$43,073, "Monsanto Beachell-Borlaug International Scholars Program (Ms. Emily Delorean's PhD Study)."

Poland, Jesse A., and Neilsen, Mitchell L. (Computer Science), National Science Foundation, \$441,938, "BREAD PHENO: High-Throughput Phenotyping with Smart Phones. #phenoApp."

Poland, Jesse A., Friebe, Bernd, Fritz, Allan K., Koo, Dalhoe, and Liu, Sanzhen, National Science Foundation, \$100,000, "Phase II IUCRC at Kansas State University: Center for Wheat Genetic Resources (WGRC)."

Poland, Jesse A., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo** (Agronomy), **Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$340,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Poland, Jesse A., Pioneer Hi-Bred International, Inc., \$50,000, "Phase II IUCRC Membership Agreement."

Poland, Jesse A., US Agency for International Development, \$1,306,078, "Rapid Development of Climate Resilient Wheat Varieties for South Asia Using Genomic Selection."

Poland, Jesse A., and Crain, Jared L., US Department of Agriculture, \$150,000, "BTT EAGER: Unified Big Data in Genomics and Phenomics for Plant Breeding."

Poland, Jesse A., US Department of Agriculture, \$340,000, "Wheat Yield Prediction and Advanced Selection Methodologies through Field-Based High-throughput Phenotyping with UAVs."

Poland, Jesse A., and Morris, Geoffrey (Agronomy), US Department of Energy, \$64,440, "A Reference Phenotyping System for Energy Sorghum."

Rupp, Jessica, DeWolf, Erick D., Fritz, Allan K. (Agronomy), and **Lollato, Romulo P.** (Agronomy), US Department of Agriculture, \$5,540, "Prediction Models and Improved Pre-Harvest Estimates of Deoxynivalenol."

Stack, James P., US Department of Agriculture, \$539,983, "Great Plains Plant Diagnostic Network."

Stack, James P., US Department of Agriculture, \$100,000, "National Plant Diagnostic Network."

Stack, James P., US Department of Agriculture, \$46,000, "Regional Center Plant Diagnostics Facility."

Todd, Timothy C., Schapaugh Jr, William T. (Agronomy), and **Trick, Harold N.**, Kansas Soybean Commission, \$55,000, "Integrating Germplasm Evaluation, Genetic Engineering, Breeding and High-Throughput Phenotyping to Improve Sustainability of Soybean Production."

Todd, Timothy C., Nebraska Corn Board, \$8,000, "Linking Lesion Nematode Reproduction to Rotation and Cover Crops by DNA Barcoding."

Trick, Harold N., Schapaugh Jr, William T. (Agronomy), and **Todd, Timothy C.**, Kansas Soybean Commission, \$25,000, "Integrating Germplasm Evaluation, Genetic Engineering, Breeding and High-Throughput Phenotyping to Improve Sustainability of Soybean Production."

Trick, Harold N., US Department of Agriculture, \$65,905, "A Centralized Wheat Transformation Facility for the Fusarium Community."

Trick, Harold N., and **Akhunov, Eduard D.**, US Department of Agriculture, \$81,600, "Genome Editing for Improving Wheat Yield and Yield-Related Traits."

Valent, Barbara S., US Department of Agriculture, \$50,000, "Field Evaluation of Wheat Blast Resistance in US and Asian Wheat Germplasm in Bolivia."

SOUTHEAST AGRICULTURAL RESEARCH CENTER

Sassenrath, Gretchen F., Lin, Xiaomao (Agronomy), **Little, Christopher R.** (Plant Pathology), and **Roozeboom, Kraig L.** (Agronomy), Kansas Soybean Commission, \$13,774, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Sweeney, Daniel W., Ciampitti, Ignacio (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Soybean Commission, \$4,333, "Assessment of Soil Potassium Bioavailability and Improving Diagnostics Tools for K Management on Soybean in Kansas."

SOUTHWEST RESEARCH EXTENSION CENTER

Gillen, Robert L., Support Funds, \$19,300, "ASW Support Funds Research 37."

Holman, Johnathon D., Indigo Ag, Inc., \$61,649, "Work Order 18-01."

Holman, Johnathon D., National Crop Insurance Services, \$10,000, "NCIS Gift."

Holman, Johnathon D., Support Funds, \$81,515, "ASW Testing of Forage Cultivars."

Holman, Johnathon D., Jaeger, John R. (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kumar, Vipin** (Agricultural Research Center-Hays), **Obour, Augustine K.** (Agricultural Research Center-Hays), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$39,964, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Holman, Johnathon D., Ciampitti, Ignacio (Agronomy), **Esser, Andrew R.** (Agronomy), **Haag, Lucas A.** (Northwest Area Office), **Obour, Augustine K.** (Agricultural Research Center-Hays), **Roozeboom, Kraig L.** (Agronomy), and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$1,717, "Sustainable Field Pea Cropping Systems for the Great Plains."

Holman, Johnathon D., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.,** and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$15,811, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Schlegel, Alan J., Aguilar, Jonathan P. (Southwest Area Office), **Bremer, Dale J.** (Horticulture and Natural Resources), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D.** (Horticulture and Natural Resources), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared** (Horticulture and Natural Resources), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C.** (Horticulture and Natural Resources), and **Rogers, Danny H.** (Biological and Agricultural Engineering), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Schlegel, Alan J., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$4,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

Schlegel, Alan J., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$12,250, "Impact of Great Plains Production System on Sustainable Production of Grain Sorghum Cooperating with Lubbock, Texas."

Schlegel, Alan J., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D., Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$12,649, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Zukoff, Sarah N., and **Zolnerowich, Gregory** (Entomology), Kansas Department of Wildlife and Parks, \$7,500, "Proposal for a Statewide Survey of Bumble Bees (Hymenoptera, Apidae Bombus) Occurring in Kanas."

Zukoff, Sarah N., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), and **Upham, Ward S.** (Horticulture and Natural Resources), US Department of Agriculture, \$5,534, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

COLLEGE OF ARCHITECTURE, PLANNING AND DESIGN

ARCHITECTURE

Gibson, Michael D., US Department of Energy, \$52,000, "Net Positive Studio-Solar Decathlon Project."

LANDSCAPE ARCHITECTURE/REGIONAL AND COMMUNITY PLANNING

Belanger, Blake M., and Rishi, Susmita, City of Marysville, KS, \$7,000, "Community Visioning for Brownfield Reuse and Redevelopment in Marysville, KS."

Hahn, Howard D., and Skabelund, Lee R., Platte Land Trust, \$2,500, "Platte Land Trust Sawyers Nature Area."

Keane, Timothy D., Bigham, Kari A. (Biological and Agricultural Engineering), and **Moore, Trisha L.** (Biological and Agricultural Engineering), Kansas Water Office, \$16,500, "Streambank Evaluation of the Cottonwood and Neosho Rivers above John Redmond Reservoir."

Keane, Timothy D., Biles, Larry E. (Kansas Forest Service), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Moorberg, Colby** (Agronomy), **Moore, Trisha L.** (Biological and Agricultural Engineering), and **Sheshukov, Aleksey Y.** (Biological and Agricultural Engineering), US Department of the Interior, \$1,775 (includes \$1,775 from In-Kind), "Kansas Water Resources Research Institute 2016."

Kim, Hyung Jin, US Department of Transportation, \$5,000, "Dwight D. Eisenhower Transportation Fellowship Program (DDETFP) Student: Rial Carver."

Newmark, Gregory, US Department of Transportation, \$5,000, "Dwight D. Eisenhower Transportation Fellowship Program (DDETFP) Student: Andrew Young."

Newmark, Gregory, US Department of Transportation, \$5,000, "Dwight D. Eisenhower Transportation Fellowship Program (DDETFP) Student: Rachel Foss."

Rishi, Susmita, and Belanger, Blake M., City of Marysville, KS, \$7,000, "Community Visioning for Brownfield Reuse and Redevelopment in Marysville, KS."

Skabelund, Lee R., and Hahn, Howard D., Platte Land Trust, \$2,500, "Platte Land Trust Sawyers Nature Area."

COLLEGE OF ARTS AND SCIENCES

ART

Joglekar, Shreepad, Hallaq, Thomas G. (School of Journalism and Mass Communications), and **Yu, Han** (English), Support Funds, \$1,050, "Food for Thought: A Multimedia Food Desert Project."

BIOCHEMISTRY

Bawa, Simranjot, and Geisbrecht, Erika R., American Heart Association, Midwest Affiliate, "Predoctoral Fellowship Proposal for Simran Bawa: Altered Metabolism in TRIM32 Deficient Muscle."

Finnigan, Gregory C., US Department of Health and Human Services, \$108,354, "Molecular Analysis of Septin Function During MAPK-mediated Cellular Transitions."

Garcia, Brandon L., US Department of Health and Human Services, \$187,896, "Classical Complement Pathway Evasion Mechanisms of Lyme Disease Spirochetes."

Garcia, Brandon L., US Department of Health and Human Services, \$187,500, "Development of Small Molecule Inhibitors of the Classical Complement Pathway."

Geisbrecht, Brian V., and Shames, Stephanie R. (Biology), US Department of Health and Human Services, \$2,423, "Chemical Inhibition of Legionella Pneumophila Metaeffector Function."

Geisbrecht, Brian V., US Department of Health and Human Services, \$238,750, "Discovery of Small Molecule Inhibitors of the Classical Complement Pathway Using Cheminformatics."

Geisbrecht, Brian V., and Li, Ping (Chemistry), US Department of Health and Human Services, \$86,141, "Molecular Study of PHA Biosynthesis: Production of Biodegradable Polymers for Medical Applications."

Geisbrecht, Brian V., Prakash, Om, and Tomich, John M., US Department of Health and Human Services, \$272,800, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Geisbrecht, Erika R., and Bawa, Simranjot, American Heart Association, Midwest Affiliate, \$26,844, "Predoctoral Fellowship Proposal for Simran Bawa: Altered Metabolism in TRIM32 Deficient Muscle."

Geisbrecht, Erika R., US Department of Health and Human Services, \$1,875, "K-INBRE DRPP Mentor for Gregory Finnigan."

Geisbrecht, Erika R., US Department of Health and Human Services, \$339,133, "Mechanisms Underlying Muscle Development and Maintenance in Drosophila."

Geisbrecht, Erika R., US Department of Health and Human Services, \$198,897, "Metabolic Defects Promote Pathogenesis in a Drosophila Model of Muscular Dystrophy."

Geisbrecht, Erika R., US Department of Health and Human Services, \$50,475, "Metabolic Defects Promote Pathogenesis in a Muscular Dystrophy Model."

Kanost, Michael R., US Department of Health and Human Services, \$125,808, "Function and Regulation of Two Key Serine Proteases in Insect Immunity."

Kanost, Michael R., US Department of Health and Human Services, \$754,991, "Proteinase Systems in Insect Hemolymph."

Kanost, Michael R., Michel, Kristin (Biology), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), US Department of Health and Human Services, \$45,633, "The Protease Network that Regulates Innate Immunity in Mosquitoes."

Klebba, Phillip E., and Newton, Salete M., Kansas Board of Regents, \$30,000, "Comparative FLHTS for Inhibitors of TonB-dependent Iron Uptake in ESKAPE Bacteria."

Newton, Salete M., and Klebba, Phillip E., Kansas Board of Regents, \$10,000, "Comparative FLHTS for Inhibitors of TonB-dependent Iron Uptake in ESKAPE Bacteria."

Ng, Ho Leung, National Science Foundation, \$140,617, "CAREER: Seeing the Invisible: Locating Hydrogen Atoms in Protein Crystal Structures."

Ng, Ho Leung, Park, Yoonseong (Entomology), and **Prakash, Om**, US Department of Health and Human Services, \$18,976, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Ng, Ho Leung, US Department of Health and Human Services, \$18,000, "Identifying Antimalarial Kinase Drug Targets."

Prakash, Om, Ng, Ho Leung, and Park, Yoonseong (Entomology), US Department of Health and Human Services, \$37,952, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Prakash, Om, and Zolkiewski, Michal, US Department of Health and Human Services, \$32,500, "Multiscale Enhanced Sampling of Disordered Proteins."

Prakash, Om, Geisbrecht, Brian V., and Tomich, John M., US Department of Health and Human Services, \$34,100, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Tomich, John M., ADAMA Agan Ltd, \$36,000, "Deliver and Release of Encapsulated Fungicide and Pesticide Using Branched Amphipathic Peptide Capsules of Different Sizes."

Tomich, John M., Phoreus Biotechnology, Inc., \$95,500, "Release of Encapsulated Solutes from Blanched Amphipathic Capsules."

Tomich, John M., Geisbrecht, Brian V., and Prakash, Om, US Department of Health and Human Services, \$34,100, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Zolkiewska, Anna, US Department of Health and Human Services, \$1,875, "K-INBRE DRPP Mentor for Jianzhong Yu."

Zolkiewska, Anna, US Department of Health and Human Services, \$76,000, "Role of ADAM12 in Regulatory T Cell Accumulation within T11 Claudin-low Breast Tumors."

Zolkiewski, Michal, US Department of Health and Human Services, \$514,035, "Discovery of Hsp100-selective Inhibitors for Targeting Multiple Microbial Pathogens."

Zolkiewski, Michal, and Prakash, Om, US Department of Health and Human Services, \$32,500, "Multiscale Enhanced Sampling of Disordered Proteins."

Zolkiewski, Michal, Ventria Bioscience Inc., \$9,120, "Using Differential Scanning Calorimetry Lab Equipment."

BIOLOGY

Blair, John M., National Science Foundation, \$29,200, "Ecological Observation and Access Agreement - NEON D06 Konza Prairie Land Use Agreement."

Blair, John M., Dodds, Walter K., and Nippert, Jesse B., National Science Foundation, \$281,750, "LTER: Long-Term Research on Grassland Dynamics - Assessing Sensitivity and Resilience to Global Change."

Boyle, Alice, National Science Foundation, \$8,247, "RCN: Enabling Comparative Studies of the Process and Products of Sexual Selection in a Genomic Context."

Boyle, Alice, and Hefley, Trevor (Statistics), National Science Foundation, \$406,545, "What are the Environmental Causes of Population Variability of Highly Mobile Animals?."

Boyle, Alice, Ferguson, Carolyn J., Johnson, Loretta C., and Tobler, Michael, US Department of Education, \$44,775, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Brown, Susan J., US Department of Health and Human Services, \$240,000, "Bioinformatics Core - KINBRE."

Chapes, Stephen K., US Department of Health and Human Services, \$7,500, "Kansas IDeA Network of Biomedical Research Excellence."

Chapes, Stephen K., and Fleming, Sherry D., US Department of Health and Human Services, \$2,625, "Undergraduate Coordinator Office - KINBRE."

Clem, Rollie J., Kansas State University Foundation, \$40,000, "Mary L. Vanier Endowed Professorship."

Dodds, Walter K., Rice, Charles W. (Agronomy), and **Zeglin, Lydia H.**, Kansas Board of Regents, \$15,920, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Dodds, Walter K., Blair, John M., and Nippert, Jesse B., National Science Foundation, \$169,050, "LTER: Long-Term Research on Grassland Dynamics - Assessing Sensitivity and Resilience to Global Change."

Dodds, Walter K., Rice, Charles W. (Agronomy), and **Zeglin, Lydia H.**, National Science Foundation, \$292,183, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

Ferguson, Carolyn J., Boyle, Alice, Johnson, Loretta C., and Tobler, Michael, US Department of Education, \$19,403, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Fleming, Sherry D., American Heart Association, Inc., \$14,200, "Complement Activation in Pregnancy and Hypertension."

Fleming, Sherry D., US Department of Defense, \$657,217, "Gender Differences in Complement-Mediated Reperfusion Injury."

Fleming, Sherry D., and **Park, Yoonseong** (Entomology), US Department of Defense, \$114,000, "Tick Bites in Transmission of the Alpha Gal Allergen Eliciting Red Meat Allergy."

Fleming, Sherry D., US Department of Health and Human Services, \$31,500, "KINBRE Star Trainees: G. Phillips. H. Smalley, E. Wessel."

Fleming, Sherry D., US Department of Health and Human Services, \$42,800, "KINBRE Summer Scholars: Anderson, Odle, Naeem, Nieves, Williams, Hydock, Jones."

Fleming, Sherry D., US Department of Health and Human Services, \$15,000, "K-INBRE Undergraduate Coordinator Office Campus Coordinator Award - S.K. Chapes."

Fleming, Sherry D., and **Chapes, Stephen K.**, US Department of Health and Human Services, \$49,875, "Undergraduate Coordinator Office - KINBRE."

Gido, Keith B., US Department of the Interior, \$281,786, "Population Size, Mobility, and Early Life History of Razorback Suckers in the San Juan River - Lake Powell Complex."

Gido, Keith B., US Department of the Interior, \$122,944, "Range-Wide Habitat Assessment of Loach Minnow (*Tiaroga cobitis*) and Spikedace (*Meda fulgida*)."

Govind, Revathi, US Department of Health and Human Services, \$76,000, "Regulatory Mechanisms Controlling TcdE Production in *Clostridium Difficile*."

Haukos, David A., Kansas Department of Wildlife and Parks, \$40,000, "Establishment and Operation of the Kansas Cooperative Fish and Wildlife Research Unit."

Haukos, David A., US Department of Defense, \$155,441, "Response of Greater Prairie-Chickens to Natural and Anthropogenic Disturbance on Fort Riley."

Haukos, David A., US Department of the Interior, \$294,709, "Lesser Prairie-Chicken and Grassland Response to Intensive Wildfire in the Mixed-Grass Prairie."

Haukos, David A., US Department of the Interior, \$108,491, "Response of Greater Prairie-Chickens to Natural and Anthropogenic Disturbance on Fort Riley."

Haukos, David A., US Department of the Interior, \$99,912, "Ring-necked Pheasant Use of Cover Crops in Western Kansas."

Johnson, Loretta C., Boyle, Alice, Ferguson, Carolyn J., and Tobler, Michael, US Department of Education, \$65,670, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Jumpponen, Ari M., US Department of Energy, \$37,345, "Phenotypic Response of the Soil Microbiome to Environmental Perturbations."

Li, Li, and Zinovyeva, Anna Y., US Department of Health and Human Services, "Functional Dissection of HRPK-1 in miRNA Activity Regulation (Li Li)."

Michel, Kristin, US Department of Health and Human Services, \$21,126, "Exploring the Role of Ovary MicroRNAs in Mosquito Reproduction."

Michel, Kristin, Kanost, Michael R. (Biochemistry), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), US Department of Health and Human Services, \$439,214, "The Protease Network that Regulates Innate Immunity in Mosquitoes."

Mueller, Thomas, Kansas State University, \$53,200, "Amygdale Circuits of Associative Learning and Reward in Zebrafish: An MRI Approach."

Mukherjee, Thiya, and Schrick, Kathrin, US Department of Health and Human Services, "Homeodomain Proteins Linking Lipid Metabolism to Gene Expression in Plants (Thiya Mukherjee)."

Nippert, Jesse B., Blair, John M., and Dodds, Walter K., National Science Foundation, \$676,200, "LTER: Long-Term Research on Grassland Dynamics - Assessing Sensitivity and Resilience to Global Change."

Nippert, Jesse B., and Zeglin, Lydia H., US Department of Energy, \$161,503, "Using Root Traits to Forecast Woody Encroachment Dynamics in Mesic Grasslands."

Olson, Bradley J., and Rakijas, Jessica, US Department of Health and Human Services, \$37,500, "Mechanism of Genome Instability Driven by RB Loss."

Passarelli, A. Lorena, US Department of Health and Human Services, \$1,875, "K-INBRE DRPP Mentor for Stephanie Shames."

Platt, Thomas G., National Science Foundation, \$141,996, "Prevalence and Co-occurrence of Pathogenic and Cheater Agrobacteria on Healthy and Crown Gall Disease Infected Sunflowers."

Platt, Thomas G., National Science Foundation, \$24,536, "Synergism Between Plant Symbionts on Productivity: Development of a Mechanistic and Predictive Model of Microbiome Benefits to their Plant Hosts."

Rakijas, Jessica, and Olson, Bradley J., US Department of Health and Human Services, "Mechanism of Genome Instability Driven by RB Loss."

Roelofs, Jeroen, US Department of Health and Human Services, \$300,000, "Mechanism of Degradation of the Proteasome through Autophagy."

Schrick, Kathrin, and Mukherjee, Thiya, US Department of Health and Human Services, \$37,500, "Homeodomain Proteins Linking Lipid Metabolism to Gene Expression in Plants (Thiya Mukherjee)."

Shames, Stephanie R., US Department of Health and Human Services, \$112,500, "Cell Biology of an *L. Pneumophila* Effector that Enhances Bacterial Clearance in Vivo."

Shames, Stephanie R., and Geisbrecht, Brian V. (Biochemistry), US Department of Health and Human Services, \$78,335, "Chemical Inhibition of *Legionella Pneumophila* Metaeffector Function."

Spooner, Brian S., Kansas State University Foundation, \$62,261, "Biology Research Career Development Core."

Spooner, Brian S., Kansas State University Foundation, \$47,058, "Biology Summer Graduate Fellowships."

Spooner, Brian S., Kansas State University Foundation, \$22,300, "Cancer Center Research Awards."

Spooner, Brian S., Support Funds, \$6,000, "OBO Biology Student Research Awards."

Tobler, Michael, Boyle, Alice, Ferguson, Carolyn J., and Johnson, Loretta C., US Department of Education, \$19,403, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Vediyappan, Govindsamy, US Department of Health and Human Services, \$10,000, "Typhoon Trio+ Multimode Imaging Core."

Veeman, Michael, US Department of Health and Human Services, \$311,250, "Morphogenetic Effector Networks in Ciona Notochord."

Wallace, Nicholas, and Wendel, Sebastian O., US Department of Health and Human Services, \$37,500, "HPV E6 and E7 Disrupt the Translesion Synthesis Pathway (Sebastian Wendel)."

Welti, Ruth, National Science Foundation, \$57,420, "RUI: Apoplastic Lipids in Xylem of Vascular Plants: Compositions, Locations, Origins, and Possible Functions."

Welti, Ruth, US Department of Agriculture, \$6,000, "Polar Lipid Profile Analysis."

Welti, Ruth, US Department of Health and Human Services, \$11,808, "Core Facility Support for the Kansas Lipidomics Research Center (KLFC)."

Wendel, Sebastian O., and Wallace, Nicholas, US Department of Health and Human Services, "HPV E6 and E7 Disrupt the Translesion Synthesis Pathway (Sebastian Wendel)."

Yang, Zhilong, US Department of Health and Human Services, \$100,500, "Genomic and Chemical Approaches for Developing Novel Anti-poxvirus Strategies."

Zeglin, Lydia H., Dodds, Walter K., and Rice, Charles W. (Agronomy), Kansas Board of Regents, \$7,960, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Zeglin, Lydia H., and Kirk, Matthew (Geology), National Science Foundation, \$43,193, "Collaborative Research: Biogeochemical Drivers of Interspecies Electron Transfer from Iron Reducers to Methanogens."

Zeglin, Lydia H., Dodds, Walter K., and Rice, Charles W. (Agronomy), National Science Foundation, \$146,092, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

Zeglin, Lydia H., and Nippert, Jesse B., US Department of Energy, \$132,138, "Using Root Traits to Forecast Woody Encroachment Dynamics in Mesic Grasslands."

Zinovyeva, Anna Y., and Li, Li, US Department of Health and Human Services, \$37,500, "Functional Dissection of HRPK-1 in miRNA Activity Regulation (Li Li)."

Zinovyeva, Anna Y., US Department of Health and Human Services, \$423,700, "Molecular Control of MicroRNA Gene-regulatory Activity in vivo."

CHAPMAN CENTER

Lynn-Sherow, Bonnie, Kansas State University Foundation, \$193,669, "Chapman Center for Personnel."

Lynn-Sherow, Bonnie, Kansas State University Foundation, \$50,000, "OCC NEH Making the Leap."

Lynn-Sherow, Bonnie, National Endowment for the Humanities, \$100,000 (includes \$50,000 from External Funding), "Making the Leap: The Future of Rural Historical Societies and Museums."

CHEMISTRY

Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Aakeroy, Christer B., US Department of Defense, \$192,000, "Theory and Experiment of Cocrystals: Principles, Synthesis and Properties."

Aikens, Christine M., Aakeroy, Christer B., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Aikens, Christine M., US Department of Energy, \$241,567, "Elucidating the Mechanism of Plasmon-Mediated Photocatalysis using Electron Dynamics Calculations."

Bossmann, Stefan, and Sorensen, Christopher M. (Physics), Carbon-2D Graphene Inc., \$252,068, "Advanced Graphene Research."

Bossmann, Stefan, and Culbertson, Christopher T., National Science Foundation, \$150,000, "EAGER: Design and Validation of a Point-of-Care Device to Detect Biomarkers of Pain."

Bossmann, Stefan, Aakeroy, Christer B., Aikens, Christine M., Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$86,056, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Bossmann, Stefan, The Mindlin Foundation, \$5,000, "Synthesis and Characterization of Radio Frequency Responsive Silica Nanospheres for Drug Delivery."

Bossmann, Stefan, , (Psychological Sciences), **Andresen, Daniel A.** (Computer Science), **Bailey, Heather R.** (Psychological Sciences), **Cain, Mary E.** (Psychological Sciences), **Kirkpatrick, Kimberly** (Psychological Sciences), **Loschky, Lester C.** (Psychological Sciences), **Pickens II, Charles** (Psychological Sciences), and **Zakrzewski, Alexandria** (Psychological Sciences), US Department of Health and Human Services, \$42,057 (includes \$365 from WSU, and \$365 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Bossmann, Stefan, US Department of Health and Human Services, \$146,412, "HTS for Copper-Activated Inhibitors Against MRSA."

Chikan, Viktor, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Chikan, Viktor, Liu, Bin (Chemical Engineering), and **Pfromm, Peter H.** (Chemical Engineering), US Department of Energy, \$61,545, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."

Culbertson, Christopher T., and Bossmann, Stefan, National Science Foundation, \$150,000, "EAGER: Design and Validation of a Point-of-Care Device to Detect Biomarkers of Pain."

Culbertson, Christopher T., Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$103,268, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Gadzikwa, Tendai, National Science Foundation, \$425,000, "Enzyme-inspired Catalysis in Multifunctional Metal-organic Framework Materials."

Gadzikwa, Tendai, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Higgins, Daniel A., and Brokesh, Edwin L. (Biological and Agricultural Engineering), Kansas Soybean Commission, \$618, "K-State Biodiesel Initiative Workshop Planning and Fuel and WVO Handling, Storage, and Quality Monitoring Project."

Higgins, Daniel A., Kansas State University Foundation, \$65,000, "Center for Basic Cancer Research: Fraternal Order of Eagles Fund."

Higgins, Daniel A., Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Higgins, Daniel A., and Ito, Takashi, US Department of Energy, \$94,161, "SISGR: Molecular-Level Investigation of Diffusion Behaviors within Cylindrical Nanoscale Pores."

Hua, Duy H., US Department of Health and Human Services, \$300,116, "Catalytic Asymmetric Oxidation of Alkenes and Alkanes."

Ito, Takashi, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Ito, Takashi, and Higgins, Daniel A., US Department of Energy, \$94,161, "SISGR: Molecular-Level Investigation of Diffusion Behaviors within Cylindrical Nanoscale Pores."

Jankowiak, Ryszard J., US Department of Energy, \$121,245, "Mutants of Light Harvesting Antennas and Reaction Centers: Disorder, Excitonic Structure, Electron Transfer, and Excitation Energy Transfer Dynamics."

Li, Jun, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Li, Jun, US Department of Energy, \$60,924, "Stationary Direct Methanol Fuel Cells Using Pure Methanol."

Li, Ping, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, and Tanona, Scott (Philosophy),

National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Li, Ping, National Science Foundation, \$461,784, "Study of A- and B-class Dye-decolorizing Peroxidases (DyPs): From Molecular Mechanisms to Applications in Dye Removal and Lignin Degradation."

Li, Ping, and **Geisbrecht, Brian V.** (Biochemistry), US Department of Health and Human Services, \$420,570, "Molecular Study of PHA Biosynthesis: Production of Biodegradable Polymers for Medical Applications."

Rafferty, Ryan, National Science Foundation, \$625,000, "CAREER: Penetrating Barriers - A New Paradigm for Enhancing Molecular Transport into Complex Biological Membranes."

Smith, Paul E., US Department of Health and Human Services, \$66,255, "Towards Exome Analyses: Surprising Outcomes from Mutating Nonconserved Positions."

COMMUNICATION STUDIES

Paul, Gregory, Chladny, Bruce A. (County Agents - Metropolitan Sector), **Johannes, Elaine M.** (School of Family Studies and Human Services), and **Williams, L. Susan** (Sociology, Anthropology, and Social Work), US Department of Justice, \$146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

DEAN OF ARTS AND SCIENCES

Chakrabarti, Amitabha, Kansas State University Foundation, \$80,000, "Michelle Munson-Serban Simu Faculty Stars Recognition Program."

Choma, Kimathi I., Grauer, Bette (Dean of Engineering), **Montelone, Beth A.** (Office of Research Development), **Taber, Charles** (Office of the Provost), and **Wiley, Zelia Z.** (Dean of Agriculture and Director of AES), National Science Foundation, \$67,511, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

ENGLISH

Yu, Han, Hallaq, Thomas G. (School of Journalism and Mass Communications), and **Joglekar, Shreepad** (Art), Support Funds, \$1,050, "Food for Thought: A Multimedia Food Desert Project."

GEOGRAPHY

Caldas, Marcellus M., Stroud Water Research Center, \$20,000, "Stroud Water Research Center Agreement."

Langston, Abigail L., National Science Foundation, \$197,599, "RII Track-4: Using Novel Applications of Luminescence Techniques to Evaluate Channel Mobility and Bedrock Valley Development."

GEOLOGY

Datta, Saugata, National Science Foundation, \$293,482, "Collaborative Research: The Dynamic Iron Curtain Surrounding Fluctuating Rivers and its Impacts on Arsenic Fate and Transport."

Farough, Aida, National Science Foundation, \$18,000, "Participation of Aida Farough on Expedition 376."

Goldberg, Karin, American Chemical Society, \$70,000, "High-Resolution Sequence Stratigraphy in Mudrock-Dominated Successions: The Chattanooga/Woodford Shale (Late Devonian, Midcontinent Basin)."

Kirk, Matthew, and **Zeglin, Lydia H.** (Biology), National Science Foundation, \$153,137, "Collaborative Research: Biogeochemical Drivers of Interspecies Electron Transfer from Iron Reducers to Methanogens."

Raef, Abdelmoneam, and **Totten, Matthew W.**, Schlumberger Technology Corporation, \$9,121,644, "Contract for PETREL, TECHLOG, PETROMOD, GEOX Software."

Totten, Matthew W., and Raef, Abdelmoneam, Schlumberger Technology Corporation, \$9,121,644, "Contract for PETREL, TECHLOG, PETROMOD, GEOX Software."

HISTORY

Graff, David A., and Taber, Charles, (Office of the Provost), Kansas State University Foundation, \$24,068, "Pickett Chair."

Krysko, Michael, Kansas State University Foundation, \$2,836, "Kenneth Davis Professorship."

Lynn-Sherow, Bonnie, National Endowment for the Humanities, "Making the Leap: The Future of Rural Historical Societies and Museums."

MATHEMATICS

Albin, Nathan, Alvarez Santos, Eduardo (Agronomy), **Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$140,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Auckly, David R., Mathematical Association of America, \$6,000, "Heritage Math Camp and Indigenous Math Circles."

Auckly, David R., and Blank, Ivan, National Science Foundation, \$9,998, "Midwest Geometry Conference 2019-2021."

Blank, Ivan, and Auckly, David R., National Science Foundation, \$9,998, "Midwest Geometry Conference 2019-2021."

Jaberi-Douraki, Majid, and Lin, Zhoumeng (Anatomy and Physiology), US Department of Agriculture, \$119,000, "Food Animal Residue Avoidance Databank (FARAD)."

Nguyen, Dinh Liem, National Science Foundation, \$130,000, "Direct and Inverse Electromagnetic Scattering Problems for Complex Periodic Media."

Poggi-Corradini, Pietro, National Science Foundation, \$37,000 (includes \$7,000 from University of Washington), "Modern Aspects of Complex Analysis and Its Applications."

MODERN LANGUAGES

Hillard, Derek, and Nakamura, Kumiko, Japan Foundation, The, "Salary Assistance Grant for Japanese-Language Courses."

Nakamura, Kumiko, and Hillard, Derek, Japan Foundation, The, \$11,194, "Salary Assistance Grant for Japanese-Language Courses."

PHILOSOPHY

Herington, Jonathan C., Lavery, James (Physics), and **Tanona, Scott**, National Science Foundation, \$116,907, "Standard: Developing a Value Literate Culture in Science."

Tanona, Scott, Aakeroy, Christer B. (Chemistry), **Aikens, Christine M.** (Chemistry), **Bossmann, Stefan** (Chemistry), **Chikan, Viktor** (Chemistry), **Culbertson, Christopher T.** (Chemistry), **Gadzikwa, Tendai** (Chemistry), **Higgins, Daniel A.** (Chemistry), **Ito, Takashi** (Chemistry), **Li, Jun** (Chemistry), and **Li, Ping** (Chemistry), National Science Foundation, \$17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Tanona, Scott, Herington, Jonathan C., and Lavery, James (Physics), National Science Foundation, \$120,450, "Standard: Developing a Value Literate Culture in Science."

PHYSICS

Ben-Itzhak, Itzhak, and Esry, Brett D., US Department of Energy, "Structure and Dynamics of Atoms. Ions, Molecules, and Surfaces."

Berg, Matthew J., National Science Foundation, \$187,986, "CAREER: In Situ Study of Aerosol in the Coarse Mode with Digital Holography."

Berg, Matthew J., US Department of Defense, \$123,484, "Field Enhanced Optical Transmission in Metal."

Bolton, Timothy A., US Department of Energy, \$700,673, "Deep Underground Neutrino Experiment (DUNE)."

Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Bolton, Timothy A., US Department of Energy, \$24,320, "SOW - Deep Underground Neutrino Experiment."

Chakrabarti, Amitabha, and Sorensen, Christopher M., National Science Foundation, \$81,733, "Studies of Light Scattering by Particles of Arbitrary Shape."

Esry, Brett D., and Ben-Itzhak, Itzhak, US Department of Energy, \$2,650,000, "Structure and Dynamics of Atoms. Ions, Molecules, and Surfaces."

Flanders, Bret N., and Greenman, Loren, National Science Foundation, \$87,091, "REU Site: Physics at Kansas State University - Interactions of Matter, Light and Learning."

Flanders, Bret N., US Department of Energy, \$74,375, "Climbing Over Energy Barriers - A New Paradigm for Accelerating Kinetics."

Flanders, Bret N., US Department of Energy, \$45,918, "Mesocrystal Architectures."

Flanders, Bret N., US Department of Health and Human Services, \$21,812, "Conducting Polymer Nanowires for Neural Modulation."

Greenman, Loren, and Flanders, Bret N., National Science Foundation, \$58,061, "REU Site: Physics at Kansas State University - Interactions of Matter, Light and Learning."

Greenman, Loren, Rolles, Daniel, and Rudenko, Artem, US Department of Energy, \$140,000, "Investigating Charge Transfer and Charge Migration on the Few-to Sub-Femtosecond Time Scale."

Horton-Smith, Glenn A., University of Michigan, \$19,847, "Electronic Readout System: Electronics Readout w/HSMI Input (multiple boards, 64 channels/board, 12 bit, 80MS/s)."

Horton-Smith, Glenn A., Bolton, Timothy A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$148,800, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Ivanov, Andrew G., National Science Foundation, \$134,348, "U.S. CMS Operations at the Large Hadron Collider."

Ivanov, Andrew G., Bolton, Timothy A., Horton-Smith, Glenn A., Kaadze, Ketino, Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Kaadze, Ketino, US Department of Energy, \$146,477, "High Luminosity (HL) LHC CMS Detector Upgrade Project, Endcap Calorimeter - FY19."

Kaadze, Ketino, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Laverty, James, Herington, Jonathan C. (Philosophy), and **Tanona, Scott** (Philosophy), National Science Foundation, \$116,907, "Standard: Developing a Value Literate Culture in Science."

Maravin, Yurii, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Maravin, Yurii, US Department of Energy, \$67,489, "US CMS Common Operations - 2018."

Mohammadi, Abdollah, US Department of Energy, \$20,990, "Fellowship for 2017 LPC Distinguished Researcher Program."

Ratra, Bharat, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, and Samushia, Lado, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Ratra, Bharat, US Department of Energy, \$83,000, "Testing Non-Flat, Dynamical Dark Energy, Inflation Models."

Rolles, Daniel, National Science Foundation, \$465,093, "CAREER: Investigating Ultrafast Electronic and Structural Dynamics during Light-driven Chemical Reactions."

Rolles, Daniel, Greenman, Loren, and Rudenko, Artem, US Department of Energy, \$280,000, "Investigating Charge Transfer and Charge Migration on the Few-to Sub-Femtosecond Time Scale."

Rudenko, Artem, Sorensen, Christopher M., and Thumm, Uwe, US Air Force, \$33,536, "Recollision Physics at the Nanoscale."

Rudenko, Artem, Greenman, Loren, and Rolles, Daniel, US Department of Energy, \$280,000, "Investigating Charge Transfer and Charge Migration on the Few-to Sub-Femtosecond Time Scale."

Samushia, Lado, National Aeronautics and Space Administration, \$25,080, "Constraining Dark Energy and Modified Gravity with Euclid."

Samushia, Lado, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, and Ratra, Bharat, US Department of Energy, \$130,200, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Schmit, Jeremy D., US Department of Health and Human Services, \$279,618, "Theoretical and Computational Modeling of Amyloid Aggregation."

Sorensen, Christopher M., and Bossmann, Stefan (Chemistry), Carbon-2D Graphene Inc., \$511,774, "Advanced Graphene Research."

Sorensen, Christopher M., and Chakrabarti, Amitabha, National Science Foundation, \$190,709, "Studies of Light Scattering by Particles of Arbitrary Shape."

Sorensen, Christopher M., Rudenko, Artem, and Thumm, Uwe, US Air Force, \$33,536, "Recollision Physics at the Nanoscale."

Thumm, Uwe, National Science Foundation, \$270,000, "Imaging Electronic Dynamics in Matter with Atomic Spatio-temporal Resolution."

Thumm, Uwe, Rudenko, Artem, and Sorensen, Christopher M., US Air Force, \$34,553, "Recollision Physics at the Nanoscale."

POLITICAL SCIENCE

Flynn, Michael, and Martinez, Carla, US Department of Defense, \$13,291, "The Political, Economic, and Social Effects of America's Overseas Military Presence."

Martinez, Carla, and Flynn, Michael, US Department of Defense, \$13,291, "The Political, Economic, and Social Effects of America's Overseas Military Presence."

PSYCHOLOGICAL SCIENCES

Bailey, Heather R., , Andresen, Daniel A. (Computer Science), **Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, \$399,537 (includes \$3,471 from WSU, and \$3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Cain, Mary E., , Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Kirkpatrick, Kimberly, Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, \$399,537 (includes \$3,471 from WSU, and \$3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Cain, Mary E., US Department of Health and Human Services, \$436,310, "The Effects of Differential Rearing on Glutamate Homeostasis and Addiction."

Kirkpatrick, Kimberly, , Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, \$315,424 (includes \$2,741 from WSU, and \$2,741 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Kirkpatrick, Kimberly, US Department of Health and Human Services, \$371,250, "Timing, Reward Processing and Choice."

Lee, Jin, Federal Emergency Management Agency, \$30,391, "Creating a FOCUS on Safety Culture Through Fire Service Assessment and Training."

Lee, Jin, US Department of Homeland Security, \$15,829, "Sounding the Alarm: Violence Against Fire-based EMS Responders."

Loschky, Lester C., , Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly, Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, \$126,170 (includes \$1,096 from WSU, and \$1,096 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Pickens II, Charles, , Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., and Zakrzewski, Alexandria**, US

Department of Health and Human Services, \$399,537 (includes \$3,471 from WSU, and \$3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Zakrzewski, Alexandria, , Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., and Pickens II, Charles,** US Department of Health and Human Services, \$273,367 (includes \$2,375 from WSU, and \$2,375 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

SCHOOL OF JOURNALISM AND MASS COMMUNICATIONS

Glasscock, Kelly L., and Moro, Nikhil, Journalism Education Association, \$182,953, "JEA Agreement for National Headquarters at Kansas State University."

Hallaq, Thomas G., Joglekar, Shreepad (Art), and **Yu, Han** (English), Support Funds, \$1,400, "Food for Thought: A Multimedia Food Desert Project."

Moro, Nikhil, and **Glasscock, Kelly L.,** Journalism Education Association, \$20,328, "JEA Agreement for National Headquarters at Kansas State University."

Wolgast, Stephen L., Collegian Media Group, \$55,435, "Student Publications Positions."

SCHOOL OF MUSIC, THEATRE, AND DANCE

Pinkall, Bryan R., Master Teacher, Inc., \$15,950, "Summer Choral Institute."

SOCIOLOGY, ANTHROPOLOGY, AND SOCIAL WORK

Ritterbush, Lauren W., US Department of Defense, \$247,943, "Intergovernmental Support Agreement for Archeological Surveys and Evaluations with Kansas State University."

Sanderson, Matthew R., Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), and **Parameswaran, Prathap** (Civil Engineering), National Science Foundation, \$389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Williams, L. Susan, Chladny, Bruce A. (County Agents - Metropolitan Sector), **Johannes, Elaine M.** (School of Family Studies and Human Services), and **Paul, Gregory** (Communication Studies), US Department of Justice, \$146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

STATISTICS

Bello, Nora M., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo** (Agronomy), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$120,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Hefley, Trevor, and **Boyle, Alice** (Biology), National Science Foundation, \$135,515, "What are the Environmental Causes of Population Variability of Highly Mobile Animals?."

Hefley, Trevor, US Department of the Interior, \$52,613, "Where Do We Look and What Should We Do: Examining the Hard Questions of Chronic Wasting Disease Management and Surveillance."

COLLEGE OF BUSINESS ADMINISTRATION

DEAN OF BUSINESS ADMINISTRATION

Jackson, Chad A., and Dorhout, Peter K. (Research Vice President), US Department of Commerce, \$89,413, "Global Food Systems Economic Prosperity Accelerator."

MANAGEMENT

Whitney, Donita L., Griffin, Jason (Horticulture and Natural Resources), and **Williams, Kimberly A.** (Horticulture and Natural Resources), US Department of Agriculture, \$5,056, "Expansion of Blueberry Production in Kansas with Greenhouse and High Tunnel Growing Methods."

COLLEGE OF EDUCATION

CURRICULUM AND INSTRUCTION

Alberto, Jamie, and McCornack, Brian P. (Entomology), Kansas Corn Commission, \$1,887, "Crops, Insects, and Agroecosystems - A New Course Offering for Elementary Education Majors at Kansas State University."

Clark, Jeffrey D., and Vontz, Thomas, US Department of Defense, \$189,599, "Troops to Teacher - Kansas Program (TTTK)."

Goodson, F. Todd, and Vontz, Thomas, Kansas Board of Regents, \$75,000, "Transitions to Teaching."

Goodson, F. Todd, and Martinez, Tonnie T., US Department of Education, \$159,034, "KSTEP-UP Kansas Statewide Teacher Education Pathway for Underserved and Place-bound Students."

Levin, Lori M., USD 383, Manhattan, \$800, "KSU & USD 383 Nonfiction Book Trailer Project."

Martinez, Tonnie T., and Goodson, F. Todd, US Department of Education, \$159,034, "KSTEP-UP Kansas Statewide Teacher Education Pathway for Underserved and Place-bound Students."

Vontz, Thomas, and Goodson, F. Todd, Kansas Board of Regents, \$75,000, "Transitions to Teaching."

Vontz, Thomas, and Clark, Jeffrey D., US Department of Defense, \$189,599, "Troops to Teacher - Kansas Program (TTTK)."

DEAN OF EDUCATION

Havlicek, Barbara J., Kansas Foundation for Agriculture in the Classroom, \$120,781, "Kansas Foundation for Ag in the Classroom."

Havlicek, Barbara J., Schools for Quality Education, Inc., \$7,000, "Schools for Quality Education (SQE)."

Herrera, Socorro G., Kingdom of Saudi Arabia, \$1,400,000, "Sheltered Instruction Unifying Methodology, Multilingualism, and Innovation in Teaching (SUMMIT) Program."

Herrera, Socorro G., US Department of Education, \$527,475, "INSIGHT."

Herrera, Socorro G., US Department of Education, \$82,791, "USD National Professional Development."

Herrera, Socorro G., USD 259, Wichita, \$100,000, "Wichita Schools ESL Professional Development."

Shuman, Cindy, National Association of Service and Conservation Corps, \$63,840, "EPSCOR RII Track-1 Water Security in Delaware's Changing Coastal Environment (People & Water) - Evaluation."

Shuman, Cindy, National Science Foundation, \$19,758, "Adapting Socio-ecological Systems to Increased Climate Variability."

Shuman, Cindy, Middendorf, B. Jan (Dean of Agriculture and Director of AES), and **Pagadala, Venkata** (Dean of Agriculture and Director of AES), National Science Foundation, \$5,943, "International Network-to-Network (N2N) Stakeholder Collaboration Workshop: Solutions to Accelerate Research, Leverage Resources, and Maximize Synergies."

Shuman, Cindy, National Science Foundation, \$15,200, "NSF ATE Critical Environments Engineering Technology Program (CEETP) - Evaluation."

Shuman, Cindy, National Science Foundation, \$30,000, "NSF INCLUDES: American Indian Traditional Science Experience."

Shuman, Cindy, National Science Foundation, \$240,000, "R11 Track - 2 FEC: G2P in VOM: An Experimental and Analytical Framework for Genome to Phenome Connections in Viruses of Microbes - Evaluation."

Shuman, Cindy, National Science Foundation, \$104,000, "RII Track-1: Louisiana Consortium for Innovation in Manufacturing and Materials."

Shuman, Cindy, US Department of Agriculture, \$85,714, "Diversifying the Water Portfolio for Agriculture in the Rio Grande Basin - Evaluation."

Shuman, Cindy, US Department of Agriculture, \$27,429, "Technology for Trade: New Tools and New Rules for Water Use Efficiency in Agriculture and Beyond."

Shuman, Cindy, US Department of Health and Human Services, \$25,200, "Building Integrated Pathways to Independence for Diverse Biomedical Researchers (Project Pathways) - Evaluation."

Shuman, Cindy, US Department of Health and Human Services, \$13,680, "Kansas IDeA Network of Biomedical Research Excellence (K-IMBRE)."

Spears, Jacqueline D., and **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), US Department of Agriculture, \$59,623, "Capacity Building in Animal Health through Biotechnology training for High School Science Teachers."

EDUCATIONAL LEADERSHIP

Doll, Richard, US Department of Education, \$80,000, "Kansas Educational Leadership Institute (KELI)."

COLLEGE OF ENGINEERING

ARCHITECTURAL ENGINEERING AND CONSTRUCTION SCIENCE

Buyle, Raymond J., Clark, Gary A. (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

BIOLOGICAL AND AGRICULTURAL ENGINEERING

Bigham, Kari A., Keane, Timothy D. (Landscape Architecture/Regional and Community Planning), and **Moore, Trisha L.**, Kansas Water Office, \$16,500, "Streambank Evaluation of the Cottonwood and Neosho Rivers above John Redmond Reservoir."

Bigham, Kari A., Featherstone, Allen M. (Agricultural Economics), and **Reid, Roberta M.** (Agricultural Economics), US Department of Agriculture, \$5,610, "Loss and Costs of Streambanks with and without Riparian Forest Buffers."

Bigham, Kari A., and Moore, Trisha L., US Fish and Wildlife Service, \$3,000, "King's Creek Watershed Modeling."

Brokesh, Edwin L., and Sharda, Ajay, CNH Industrial America LLC, \$2,500, "Pulse Width Modulation Spray Control System Evaluation and Future Strategies."

Brokesh, Edwin L., and Higgins, Daniel A. (Chemistry), Kansas Soybean Commission, \$2,814, "K-State Biodiesel Initiative Workshop Planning and Fuel and WVO Handling, Storage, and Quality Monitoring Project."

Brokesh, Edwin L., Flippo, Daniel, and Sharda, Ajay, Mahindra & Mahindra Limited, \$24,970, "Testing and Evaluation Services Agreement."

Brokesh, Edwin L., and Slocombe, John W., US Department of Agriculture, \$18,000, "Kansas AgriAbility Project 2018-2022."

Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), **Sharda, Ajay**, and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, \$360, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Flippo, Daniel, Brokesh, Edwin L., and Sharda, Ajay, Mahindra & Mahindra Limited, \$24,970, "Testing and Evaluation Services Agreement."

Flippo, Daniel, Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo** (Agronomy), **Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$160,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Flippo, Daniel, McCornack, Brian P. (Entomology), and **Sharda, Ajay**, US Department of Agriculture, \$291,364, "NRI: INT: COLLAB: An Autonomous Insect Sense, Identify, and Manage PLaform (SIMPL) to Advance Crop Protection Strategies."

Harner III, Joseph P., and Brouk, Micheal J. (Animal Sciences and Industry), Deere & Company, \$1,911, "Assessing the Variability of Packing Density and Kernel Processing Score Associated with Bunker and Drive-Over Silage Masses."

Harner III, Joseph P., Sharda, Ajay, and Wang, Donghai, Deere & Company, \$11,889, "Calibration of NIR Sensor for Hard Red Winter Wheat."

Harner III, Joseph P., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hutchinson, Stacy L., and Derby, Melanie M. (Mechanical and Nuclear Engineering), National Science Foundation, \$7,200, "EPRI: Flexible Flapping Surfaces for Water Collection and Condensation."

Hutchinson, Stacy L., Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Parameswaran, Prathap** (Civil

Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Hutchinson, Stacy L., The Nature Conservancy, \$30,000, "Modeling the Impact of Sustainable Development in the Blue River Watershed."

Hutchinson, Stacy L., US Department of Transportation, \$52,500, "FHWA Resilience and Durability to Extreme Weather Pilot Program."

Liu, Zifei, and **Maghirang, Ronaldo G.**, National Pork Board, \$36,800, "Evaluate the Representativeness of the NAEMS Air Emission Data for Swine Operations in a Changing Industry."

Liu, Zifei, US Department of Agriculture, \$100,631, "Developing a Decision Tool to Assist Management of Prescribed Fires in the Flint Hills Region in Order to Reduce Smoke Impact on Ambient Ozone Concentrations."

Maghirang, Ronaldo G., and **Liu, Zifei**, National Pork Board, \$9,200, "Evaluate the Representativeness of the NAEMS Air Emission Data for Swine Operations in a Changing Industry."

Moore, Trisha L., **Bigham, Kari A.**, and **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), Kansas Water Office, \$17,000, "Streambank Evaluation of the Cottonwood and Neosho Rivers above John Redmond Reservoir."

Moore, Trisha L., National Science Foundation, \$19,774, "Defining the Future of Ecological Engineering through Today's Students."

Moore, Trisha L., **Biles, Larry E.** (Kansas Forest Service), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), **Moorberg, Colby** (Agronomy), and **Sheshukov, Aleksey Y.**, US Department of the Interior, \$5,916 (includes \$5,916 from In-Kind), "Kansas Water Resources Research Institute 2016."

Moore, Trisha L., and **Bigham, Kari A.**, US Fish and Wildlife Service, \$3,000, "King's Creek Watershed Modeling."

Rogers, Danny H., **Aguilar, Jonathan P.** (Southwest Area Office), **Bremer, Dale J.** (Horticulture and Natural Resources), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D.** (Horticulture and Natural Resources), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared** (Horticulture and Natural Resources), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C.** (Horticulture and Natural Resources), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$9,450, "Irrigation Innovation Consortium."

Rogers, Danny H., **Aguilar, Jonathan P.** (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$6,325, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Sharda, Ajay, and **Brokesh, Edwin L.**, CNH Industrial America LLC, \$22,500, "Pulse Width Modulation Spray Control System Evaluation and Future Strategies."

Sharda, Ajay, Harner III, Joseph P., and Wang, Donghai, Deere & Company, \$11,889, "Calibration of NIR Sensor for Hard Red Winter Wheat."

Sharda, Ajay, and Ciampitti, Ignacio, Deere & Company, \$183,089, "Precision Planting System with Hydraulic Downforce Technology for Seed Placement Uniformity."

Sharda, Ajay, Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, \$15,840, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Sharda, Ajay, Brokesh, Edwin L., and Flippo, Daniel, Mahindra & Mahindra Limited, \$199,757, "Testing and Evaluation Services Agreement."

Sharda, Ajay, Flippo, Daniel, and McCornack, Brian P. (Entomology), US Department of Agriculture, \$353,168, "NRI: INT: COLLAB: An Autonomous Insect Sense, Identify, and Manage PLatform (SIMPL) to Advance Crop Protection Strategies."

Sheshukov, Aleksey Y., Biles, Larry E. (Kansas Forest Service), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), **Moorberg, Colby** (Agronomy), and **Moore, Trisha L.**, US Department of the Interior, \$5,916 (includes \$5,916 from In-Kind), "Kansas Water Resources Research Institute 2016."

Slocombe, John W., and Brokesh, Edwin L., US Department of Agriculture, \$162,000, "Kansas AgriAbility Project 2018-2022."

Wang, Donghai, Harner III, Joseph P., and Sharda, Ajay, Deere & Company, \$35,668, "Calibration of NIR Sensor for Hard Red Winter Wheat."

Wang, Donghai, and Sun, X. Susan (Grain Science and Industry), US Department of Agriculture, \$68,360, "Effect of Sorghum Grain Components Fermentation and Co-Product Quality."

Wang, Donghai, US Department of Agriculture, \$37,813, "Spectroscopic Measurement of Biological Materials."

Zhang, Naiqian, and Moorberg, Colby (Agronomy), National Science Foundation, \$38,498, "Collaborative Research: EAGER SitS: Automated Imaging Platform for In Situ Sensing and Analysis of Roots, Fungi, and Soil Solution Chemistry."

CENTER FOR HAZARDOUS SUBSTANCE RESEARCH

Hartnett, Michael J., Leven, Blase A., and Nightingale, Scott A., US Environmental Protection Agency, \$270,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Leven, Blase A., Hartnett, Michael J., and Nightingale, Scott A., US Environmental Protection Agency, \$180,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Nightingale, Scott A., Hartnett, Michael J., and Leven, Blase A., US Environmental Protection Agency, \$450,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

CHEMICAL ENGINEERING

Amama, Placidus B., National Science Foundation, \$109,663, "CAREER: Rational Design of Efficient Carbon Nanotube-Supported TiO₂ Photocatalysts for Air Purification."

Amama, Placidus B., National Science Foundation, \$16,000, "Nanomanufacturing of Vertically Aligned Carbon Nanotube Arrays from Industrial Waste Gas Mixture."

Edgar, James H., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hansen, Ryan R., Hettiarachchi, Ganga M. (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$54,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Hansen, Ryan R., Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$119,935, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Hansen, Ryan R., and Parameswaran, Prathap (Civil Engineering), National Science Foundation, \$167,435, "Understanding Mechanisms of Membrane Biofouling in Anaerobic Membrane Bioreactors using Polymer Surface Dissection."

Hasegawa, Urara, US Department of Health and Human Services, \$89,450, "Nanoparticle Platform for Site-Specific Gasotransmitter Hydrogen Sulfide Delivery."

Liu, Bin, Chikan, Viktor (Chemistry), and **Pfromm, Peter H.**, US Department of Energy, \$41,030, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."

Pfromm, Peter H., Chikan, Viktor (Chemistry), and **Liu, Bin**, US Department of Energy, \$102,575, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."

CIVIL ENGINEERING

Dissanayake, Sunanda, and Fitzsimmons, Eric J., Kansas Department of Transportation, \$13,596, "Evaluation of Wrong-Way Driving Countermeasures at Kansas Urban and Rural Interstates Ramps."

Dissanayake, Sunanda, and Fitzsimmons, Eric J., Kansas Department of Transportation, \$13,891, "Guardrail Evaluation for Embankments and Culvert for Kansas Low-Volume Rural Roads."

Fitzsimmons, Eric J., and Dissanayake, Sunanda, Kansas Department of Transportation, \$54,385, "Evaluation of Wrong-Way Driving Countermeasures at Kansas Urban and Rural Interstates Ramps."

Fitzsimmons, Eric J., and Dissanayake, Sunanda, Kansas Department of Transportation, \$55,565, "Guardrail Evaluation for Embankments and Culvert for Kansas Low-Volume Rural Roads."

Fitzsimmons, Eric J., US Department of Justice, \$496,184, "Reducing Traffic Related Officer Fatalities and Injuries Through Technology Enhancement and Policy."

Fitzsimmons, Eric J., US Department of Transportation, \$5,000, "FHWA Dwight D. Eisenhower Transportation Fellowship Program (DDETFP)."

Fitzsimmons, Eric J., US Department of Transportation, \$100,000, "Traffic Assistance for Kansas (TASK) Program (FY 2018 -2020)."

Hossain, Mustaque A., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hossain, Mustaque A., Kansas Department of Transportation, \$22,000, "Administration of KDOT/KTRAN Program."

Hossain, Mustaque A., Kansas Department of Transportation, \$4,337, "Evaluation of Carbon Char in Hot-Mix Asphalt Mixture."

Hossain, Mustaque A., and **Jones, Christopher A.**, Kansas Department of Transportation, \$53,041, "Evaluation of Coal Combustion Products in Hot-Mix Asphalt Mixture."

Jones, Christopher A., and **Hossain, Mustaque A.**, Kansas Department of Transportation, \$22,732, "Evaluation of Coal Combustion Products in Hot-Mix Asphalt Mixture."

Jones, Christopher A., Kansas Department of Transportation, \$118,824, "Understanding Air Content Measurement Techniques for Durability Prediction."

Jones, Christopher A., US Department of Energy, \$24,999, "Support for Ongoing V&V Assessment for CASL/VERA."

Jones, Christopher A., US Department of Energy, \$60,000, "Support for Ongoing V&V Assessment for CASL/VERA."

Jones, Christopher A., US Department of Energy, \$24,925, "Technical Support of VERCORS Project."

Jones, Christopher A., US Department of Transportation, \$5,000, "FHWA Dwight D. Eisenhower Transportation Fellowship Program (DDETFP)."

Jones, Christopher A., Wenger Manufacturing, Inc., \$17,383, "PHASE 1 - Initial Mechanical Testing for PLAZROCK Aggregates."

Kulesza, Stacey E., Kansas Department of Transportation, \$71,914, "Measuring Corrosion Conditions in MSE Walls."

Kulesza, Stacey E., Hansen, Ryan R. (Chemical Engineering), **Hettiarachchi, Ganga M.** (Agronomy), **Parameswaran, Prathap**, and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$93,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Kulesza, Stacey E., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo** (Agronomy), **Bello, Nora M.** (Statistics), **Duke, Linda A.** (Beach Art Museum), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$40,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Kulesza, Stacey E., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Lamm, Freddie R.**

(Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$25,298, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Kulesza, Stacey E., US Department of Transportation, \$81,364, "Unsaturated Characteristics of Fouled Ballast to Support in Situ Identification of Fouling using Ground Penetrating Radar - Phase I."

Parameswaran, Prathap, Bio Huma Netics, Inc., \$11,172, "Assessing the Denitrification Potential of PROBIOTIC SOLUTIONS for Sustainable Wastewater Treatment."

Parameswaran, Prathap, Hansen, Ryan R. (Chemical Engineering), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.**, and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$84,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Parameswaran, Prathap, Aguilar, Jonathan P. (Southwest Area Office), **Derby, Melanie M.** (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Parameswaran, Prathap, and **Hansen, Ryan R.** (Chemical Engineering), National Science Foundation, \$136,992, "Understanding Mechanisms of Membrane Biofouling in Anaerobic Membrane Bioreactors using Polymer Surface Dissection."

Rasheed, Hayder A., Kansas Department of Transportation, \$39,752, "New Carbon Fiber Anchor to Secure CFrp Flexural and Shear Strengthening Sheets."

Rasheed, Hayder A., Structural Technologies, \$11,476, "New Carbon Fiber Anchor to Secure CFRP Flexural and Shear Strengthening Sheets."

COMPUTER SCIENCE

Amariuca, George, National Science Foundation, \$10,810, "SBE: Small: Continuous Human-User Authentication by Induced Procedural Visual-Motor Biometrics."

Amariuca, George, National Security Agency, \$12,000, "INSuRE 3.0: INSuRing the Effectiveness of Tomorrow's Cybersecurity Workforce Today."

Andresen, Daniel A., (Psychological Sciences), **Bailey, Heather R.** (Psychological Sciences), **Bossmann, Stefan** (Chemistry), **Cain, Mary E.** (Psychological Sciences), **Kirkpatrick, Kimberly** (Psychological Sciences), **Loschky, Lester C.** (Psychological Sciences), **Pickens II, Charles** (Psychological Sciences), and **Zakrzewski, Alexandria** (Psychological Sciences), US Department of Health and Human Services, \$84,113 (includes \$731 from WSU, and \$731 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Caragea, Cornelia A., National Science Foundation, \$230,000, "CRI: CI-SUSTAIN: Collaborative Research: CiteSeerX: Toward Sustainable Support of Scholarly Big Data."

Caragea, Doina, Children's Mercy Hospital, \$17,066, "Modeling Pediatric Cancer Trajectories Using Deidentified EHR Data."

DeLoach, Scott A., **Buyle, Raymond J.** (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer

Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hatcliff, John M., and **Robby, -**, US Department of Defense, \$111,602, "Cyber Assured Systems Engineering (CASSE): Architecture Information Flow Analysis and Translation for High-Assurance Embedded Systems with Separation Kernels."

Hatcliff, John M., and **Robby, -**, US Department of Defense, \$5,000, "GUMBO: Grand Unified Modeling of Behavior Operators SBIR Phase I."

Hsu, William H., US Department of Energy, \$30,000, "Machine Learning of Filters for Magnetometer-based Navigation."

Neilsen, Mitchell L., and **Poland, Jesse A.** (Plant Pathology), National Science Foundation, \$77,989, "BREAD PHENO: High-Throughput Phenotyping with Smart Phones. #phenoApp."

Neilsen, Mitchell L., US Department of Agriculture, \$47,700, "Developing Software Imaging Solutions for Single Seed Analysis."

Neilsen, Mitchell L., US Department of Agriculture, \$35,000, "Enhancement of Software Tools SITES, WinDAM, WinTR-20, and Pond EFT."

Neilsen, Mitchell L., US Department of Energy, \$78,334, "Thermal Battery Model Interface Development."

Prabhakar, Pavithra, National Science Foundation, \$103,335, "CAREER: Robust Verification of Cyber-Physical Systems."

Prabhakar, Pavithra, US Department of Defense, \$222,000, "Formal Synthesis of Robust, Optimal Controllers for Autonomous Underwater Vehicles."

Reif, Kathryn E., and **KuKanich, Katherine** (Clinical Sciences), Foundation for Food and Agriculture Research, \$2,400, "Veterinary Student Research Fellowship for Summer of 2019."

Robby, -, and **Hatcliff, John M.**, US Department of Defense, \$167,404, "Cyber Assured Systems Engineering (CASSE): Architecture Information Flow Analysis and Translation for High-Assurance Embedded Systems with Separation Kernels."

Robby, -, and **Hatcliff, John M.**, US Department of Defense, \$5,000, "GUMBO: Grand Unified Modeling of Behavior Operators SBIR Phase I."

DEAN OF ENGINEERING

Bitsie-Baldwin, LaVerne, and **Clark, Gary A.**, National Action Council for Minorities in Engineering, \$22,500, "NACME Scholars Program."

Clark, Gary A., **Buyle, Raymond J.** (Architectural Engineering and Construction Science), **Dawson, Darren M.**, **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Clark, Gary A., and Bitsie-Baldwin, LaVerne, National Action Council for Minorities in Engineering, \$22,500, "NACME Scholars Program."

Dawson, Darren M., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A., DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$350,000, "University Engineering Initiative Act (UEIA)."

Grauer, Bette, Choma, Kimathi I. (Dean of Arts and Sciences), **Montelone, Beth A.** (Office of Research Development), **Taber, Charles** (Office of the Provost), and **Wiley, Zelia Z.** (Dean of Agriculture and Director of AES), National Science Foundation, \$67,511, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

ELECTRICAL AND COMPUTER ENGINEERING

Gruenbacher, Don M., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Gruenbacher, Don M., Kuhn, William B., and Peterson, Garrett S., US Department of Energy, \$7,500, "High-Frequency Electronics in Advanced PC Board Technologies."

Gruenbacher, Don M., Kuhn, William B., and Peterson, Garrett S., US Department of Energy, \$45,000, "K-State Radar 2021 Consortium."

Kim, Jungkwun, Samil Technology Company Ltd., \$8,873, "Planning International Joint R & D Tasks and Finding Overseas Partners for Developing Microscale Metal-polymer 3D Printer and Its Applications."

Kim, Sungo, Samsung Electronic Co. LTD, \$100,000, "GRO Research Agreement: Fully Transparent Flexible and High Strength Mica Substrates."

Kuhn, William B., Gruenbacher, Don M., and Peterson, Garrett S., US Department of Energy, \$10,000, "High-Frequency Electronics in Advanced PC Board Technologies."

Kuhn, William B., Gruenbacher, Don M., and Peterson, Garrett S., US Department of Energy, \$60,000, "K-State Radar 2021 Consortium."

Natarajan, Balasubramaniam, Black & Veatch Corporation, \$30,000, "Modeling and Predictive Analysis of Springfield Sanitary Sewer System from a Machine/Statistical Learning Perspective."

Pahwa, Anil, National Science Foundation, \$258,404, "National Science Foundation - Intergovernmental Personnel Act."

Peterson, Garrett S., Gruenbacher, Don M., and Kuhn, William B., US Department of Energy, \$7,500, "High-Frequency Electronics in Advanced PC Board Technologies."

Peterson, Garrett S., Gruenbacher, Don M., and Kuhn, William B., US Department of Energy, \$45,000, "K-State Radar 2021 Consortium."

Prakash, Punit, Broncus Medical Inc, \$68,778, "Experimental Platform for Characterizing Bioheat Transfer During Thermal Ablation of Lung Tumors."

Prakash, Punit, Hologic, Inc., \$73,799, "Microwave Ablation for Treatment of Uterine Fibroids: Technical Feasibility and Assessment."

Prakash, Punit, Beard, Warren L. (Clinical Sciences), and **Ganta, Chanran K.** (Veterinary Diagnostic Laboratory), National Science Foundation, \$63,182, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

Prakash, Punit, Neurent Medical Ltd., \$52,516, "Phase III - Computational Modeling and in vivo Assessment of RF Devices and Energy Delivery Strategies for Rhinitis."

Prakash, Punit, Beard, Warren L. (Clinical Sciences), **Biller, David S.** (Clinical Sciences), and **Ganta, Chanran K.** (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$218,838, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Scoglio, Caterina M., US Department of Agriculture, \$66,150, "Long-distance Dispersal and Disease Outbreaks: Effects of Initial Prevalence, Basic Reproduction Number, and Control Tactics."

Scoglio, Caterina M., Kanost, Michael R. (Biochemistry), and **Michel, Kristin** (Biology), US Department of Health and Human Services, \$85,561, "The Protease Network that Regulates Innate Immunity in Mosquitoes."

Shadmand, Mohammad B., Qatar Foundation, \$83,515, "1-MW PV Power RD&D Using SiC-based qZS Cascade Multilevel Inverter and Battery Energy Storage."

Shadmand, Mohammad B., White, Warren J. (Mechanical and Nuclear Engineering), and **Wu, Hongyu**, US Department of Energy, \$2,499, "Collegiate Wind Competition 2019."

Thompson, David E., US Department of Energy, \$97,287, "Real-Time Navigation System Simulation Advancement."

Thompson, David E., US Department of Energy, \$78,805, "Xylinx Zynq UltraScale+ Prototype Development Support."

Wu, Hongyu, Shadmand, Mohammad B., and White, Warren J. (Mechanical and Nuclear Engineering), US Department of Energy, \$2,499, "Collegiate Wind Competition 2019."

ENGINEERING EXPERIMENT STATION

Maghirang, Ronaldo G., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), and **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

Heier Stamm, Jessica L., Centers for Disease Control and Prevention, \$20,000, "Kansas Health Care Preparedness and Response Supply Chain Integrity Assessment."

Heier Stamm, Jessica L., National Science Foundation, \$9,143, "CAREER: Measuring the Impact of Public Health Supply Chain Coordination Structures on the Effectiveness of Disaster Preparedness and Response."

Kramer, Bradley A., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Dunn, William L.** (Mechanical and Nuclear Engineering), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Kramer, Bradley A., National Science Foundation, \$87,128, "Workshop/Collaborative Research: 2019 NSF Engineering Career Proposal Writing Workshop."

Kramer, Bradley A., Berggren, Quinton J. (Technology Development Institute), **Bloomfield, John J.** (Technology Development Institute), **Lanz, Bret E.** (Technology Development Institute), **Merritt, Bryan E.** (Technology Development Institute), **Picolet, Jacob L.** (Technology Development Institute), **Tucker, Jeffrey W.** (Technology Development Institute), and **Zecha, Ryan A.** (Technology Development Institute), US Department of Commerce, \$10,125 (includes \$2,000 from KDOC), "The K-State Technology Development Institute (TDI)."

Kramer, Bradley A., and Tucker, Jeffrey W. (Technology Development Institute), US Small Business Administration, "Great Plains Technology and Manufacturing Cluster."

Lei, Shuting, National Science Foundation, \$8,000, "High Performance Machining of Brittle Materials by Controlled Crack Propagation."

Lin, Dong, National Aeronautics and Space Administration, \$15,200, "Additive Manufacturing of Reinforced Carbon-Carbon Composites by Laser Assisted Laminated Object Manufacturing (LA-LOM)."

INSTITUTE FOR ENVIRONMENTAL RESEARCH

Eckels, Steven J., Support Funds, \$11,460, "Evaluation of Human Thermal Comfort and Textile Properties."

Eckels, Steven J., Support Funds, \$5,382, "Thermal Properties of Textile Products."

Hosni, Mohammad H., and Jones, Byron W., US Department of Health and Human Services, \$34,110, "Aircraft Cabin Pathogen Dispersion and Control Research Laboratory Services."

Jones, Byron W., and Hosni, Mohammad H., US Department of Health and Human Services, \$34,110, "Aircraft Cabin Pathogen Dispersion and Control Research Laboratory Services."

KANSAS INDUSTRIAL EXTENSION SERVICES

Carter, David A., Cook, Yvonne C., and Hamel, Ryan J., National Renewable Energy Laboratory, \$24,000, "Wind for Schools."

Carter, David A., US Department of Energy, \$358,572, "KCC and Kansas State University."

Carter, David A., US Department of Energy, \$42,777, "Memorandum of Agreement - KCC Energy Education Services FY19."

Cook, Yvonne C., Carter, David A., and Hamel, Ryan J., National Renewable Energy Laboratory, \$4,500, "Wind for Schools."

Fink, Arthur A., Goode, Barbara L., Ladd, Lynelle M., and Larson, Nancy J., Kansas Department of Health and Environment, \$124,500, "Small Business Environmental Assistance Program 2019."

Goode, Barbara L., Fink, Arthur A., Ladd, Lynelle M., and Larson, Nancy J., Kansas Department of Health and Environment, \$2,490, "Small Business Environmental Assistance Program 2019."

Goode, Barbara L., and Larson, Nancy J., US Environmental Protection Agency, \$21,375, "Development and Management of the National Small Business Ombudsman/Small Business Environmental Assistance Provider 507 Program Website."

Hamel, Ryan J., Carter, David A., and Cook, Yvonne C., National Renewable Energy Laboratory, \$1,500, "Wind for Schools."

Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, \$3,750, "Kansas State University-Missouri Radon Training."

Hanson, Brian R., Snead, Bruce C., and Snyder, Kristina E., US Environmental Protection Agency, \$70,000, "National Radon Program Services (NRPS)."

Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, \$115,000 (includes \$45,000 from In-Kind Support), "Radon Projects for Kansas."

Ladd, Lynelle M., Fink, Arthur A., Goode, Barbara L., and Larson, Nancy J., Kansas Department of Health and Environment, \$84,660, "Small Business Environmental Assistance Program 2019."

Ladd, Lynelle M., and Larson, Nancy J., US Environmental Protection Agency, \$41,909 (includes \$4,200 from Industry Match), "Kansas Hospitals for a Healthy Environment."

Larson, Nancy J., Fink, Arthur A., Goode, Barbara L., and Ladd, Lynelle M., Kansas Department of Health and Environment, \$37,350, "Small Business Environmental Assistance Program 2019."

Larson, Nancy J., US Department of Health and Human Services, \$9,000, "Douglas County Food Awareness Campaign."

Larson, Nancy J., and Goode, Barbara L., US Environmental Protection Agency, \$64,125, "Development and Management of the National Small Business Ombudsman/Small Business Environmental Assistance Provider 507 Program Website."

Larson, Nancy J., and Ladd, Lynelle M., US Environmental Protection Agency, \$97,787 (includes \$9,800 from Industry Match), "Kansas Hospitals for a Healthy Environment."

Larson, Nancy J., US Environmental Protection Agency, \$351,768 (includes \$190,000 from Industry Match), "Kansas Partners Identify and Implement P2 Strategies that Address National Emphasis Areas, Specifically Toxics and Hazardous Materials."

Snead, Bruce C., Tennessee Department of Environment & Conservation, \$56,000, "Tennessee Department of Environment & Conservation."

Snead, Bruce C., and Hanson, Brian R., US Environmental Protection Agency, \$3,750, "Kansas State University-Missouri Radon Training."

Snead, Bruce C., Hanson, Brian R., and Snyder, Kristina E., US Environmental Protection Agency, \$80,000, "National Radon Program Services (NRPS)."

Snead, Bruce C., and Hanson, Brian R., US Environmental Protection Agency, \$115,000 (includes \$45,000 from In-Kind Support), "Radon Projects for Kansas."

Snead, Bruce C., US Environmental Protection Agency, \$5,800 (includes \$2,900 from Participant Support Match), "Radon Projects for Nebraska 2019."

Snyder, Kristina E., Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, \$50,000, "National Radon Program Services (NRPS)."

MECHANICAL AND NUCLEAR ENGINEERING

Bahadori, Amir, KBRwyle, \$130,160, "Radiation Transport Simulations in Support of Active Shielding Measurement Campaign."

Bahadori, Amir, and McGregor, Douglas S., National Aeronautics and Space Administration, \$3,705, "High-Resolution Scanning of Sub-Surface Lunar Water with Mobile Neutron Energy Spectrometer."

Bahadori, Amir, and McNeil, Walter J., Radiation Detection Technologies, Inc., \$31,446, "X-DSMSND: A Dual-Sided Micostructured Semiconductor Neutron Detector with Integrated Pixel Read-Out."

Bahadori, Amir, McNeil, Walter J., and Roberts, Jeremy A., US Department of Energy, \$56,948, "A Dedicated Laboratory for Radioactive Sample Handling."

Bahadori, Amir, and McNeil, Walter J., US Department of Energy, \$95,249, "Electronics X-ray Inspection Shielding and Prediction Simulation."

Bahadori, Amir, and McNeil, Walter J., US Department of Energy, \$86,906, "PDRD K-State Solid State Dual Neutron/X-Ray Imager."

Bahadori, Amir, McNeil, Walter J., and Shultis, J. Kenneth, US Department of Energy, \$60,000, "Proposal for a Consortium for Nonproliferation-Enabling Capabilities."

Bahadori, Amir, and McNeil, Walter J., US Department of Energy, \$12,500, "Solid State Dual Neutron / X-Ray Imager."

Betz, Amy R., and Derby, Melanie M., National Aeronautics and Space Administration, \$10,266, "Humans in Space: A Workshop for Middle School STEM Teachers."

Derby, Melanie M., and Betz, Amy R., National Aeronautics and Space Administration, \$10,266, "Humans in Space: A Workshop for Middle School STEM Teachers."

Derby, Melanie M., and Hutchinson, Stacy L. (Biological and Agricultural Engineering), National Science Foundation, \$40,797, "EPRI: Flexible Flapping Surfaces for Water Collection and Condensation."

Derby, Melanie M., Aguilar, Jonathan P. (Southwest Area Office), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$1,019,444, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Dunn, William L., Buyle, Raymond J. (Architectural Engineering and Construction Science), **Clark, Gary A.** (Dean of Engineering), **Dawson, Darren M.** (Dean of Engineering), **DeLoach, Scott A.** (Computer Science), **Edgar, James H.** (Chemical Engineering), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Harner III, Joseph P.** (Biological and Agricultural Engineering), **Hossain, Mustaque A.** (Civil Engineering), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Maghirang, Ronaldo G.** (Engineering Experiment Station), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hobeck, Jared D., National Science Foundation, \$203,109, "Collaborative Research: Rethinking the Role of Building Envelopes with Smart Morphing Facades (Smorphacades)."

Hosni, Mohammad H., US Department of Energy, \$7,500, "Nuclear Energy University Programs Fellowship and Scholarship Support."

Leseman, Zayd C., US Department of Energy, \$6,500, "Floating Die Fixture."

McGregor, Douglas S., and **Shultis, J. Kenneth**, Defense Threat Reduction Agency, \$144,489, "Reconfigurable Wearable Detection Device (RWD)."

McGregor, Douglas S., and **Bahadori, Amir**, National Aeronautics and Space Administration, \$3,705, "High-Resolution Scanning of Sub-Surface Lunar Water with Mobile Neutron Energy Spectrometer."

McGregor, Douglas S., and **Roberts, Jeremy A.**, US Department of Energy, \$65,000, "Micro-Pocket Fission Detector."

McGregor, Douglas S., and **Roberts, Jeremy A.**, US Department of Energy, \$62,499, "Micro-Pocket Fission Detector Development for TREAT Experiments."

McNeil, Walter J., and **Bahadori, Amir**, Radiation Detection Technologies, Inc., \$31,446, "X-DSMSND: A Dual-Sided Microstructured Semiconductor Neutron Detector with Integrated Pixel Read-Out."

McNeil, Walter J., US Department of Defense, \$1,731,067, "Low-Profile PMT Scintillator Read-Out System."

McNeil, Walter J., US Department of Defense, \$175,000, "Radiological Systems Research for Detection, Localization, and Isotope Identification."

McNeil, Walter J., **Bahadori, Amir**, and **Roberts, Jeremy A.**, US Department of Energy, \$55,273, "A Dedicated Laboratory for Radioactive Sample Handling."

McNeil, Walter J., and **Sobering, Timothy J.** (Vice President Electronics Design Laboratory), US Department of Energy, \$5,000, "Electronics Additive Manufacturing PDRD."

McNeil, Walter J., and **Bahadori, Amir**, US Department of Energy, \$95,249, "Electronics X-ray Inspection Shielding and Prediction Simulation."

McNeil, Walter J., US Department of Energy, \$39,333, "Modular Radiological Survey Imaging System (MRSIS)."

McNeil, Walter J., and **Bahadori, Amir**, US Department of Energy, \$86,906, "PDRD K-State Solid State Dual Neutron/X-Ray Imager."

McNeil, Walter J., **Bahadori, Amir**, and **Shultis, J. Kenneth**, US Department of Energy, \$210,000, "Proposal for a Consortium for Nonproliferation-Enabling Capabilities."

McNeil, Walter J., and **Bahadori, Amir**, US Department of Energy, \$12,500, "Solid State Dual Neutron / X-Ray Imager."

Roberts, Jeremy A., **Bahadori, Amir**, and **McNeil, Walter J.**, US Department of Energy, \$55,273, "A Dedicated Laboratory for Radioactive Sample Handling."

Roberts, Jeremy A., US Department of Energy, \$359,972, "An Evaluated, Transient Experiment Based on Simultaneous, 3-D Neutron-Flux and Temperature Measurements."

Roberts, Jeremy A., and **McGregor, Douglas S.**, US Department of Energy, \$65,000, "Micro-Pocket Fission Detector."

Roberts, Jeremy A., and McGregor, Douglas S., US Department of Energy, \$62,499, "Micro-Pocket Fission Detector Development for TREAT Experiments."

Shultis, J. Kenneth, and McGregor, Douglas S., Defense Threat Reduction Agency, \$144,489, "Reconfigurable Wearable Detection Device (RWD)."

Shultis, J. Kenneth, Bahadori, Amir, and McNeil, Walter J., US Department of Energy, \$30,000, "Proposal for a Consortium for Nonproliferation-Enabling Capabilities."

Singh, Gurpreet, National Science Foundation, \$875,721, "PIRE: High Temperature Ceramic Fibers: Polymer-based Manufacturing, Nanostructure, and Performance."

Wang, Youqi, US Department of Defense, \$100,000, "Real Scale Numerical Simulation of Ballistic Tests for Multi-layer Fabric Body Armor."

Wei, Mingjun, Powers & Zahr Consortium Management Co LLC, \$2,000, "Support of B-52 Re-Engine Program."

Wei, Mingjun, US Department of Defense, \$120,000, "(YIP) A Multiscale Morphing Continuum Analysis on Energy Cascade of Compressible Turbulence."

White, Warren J., Shadmand, Mohammad B. (Electrical and Computer Engineering), and **Wu, Hongyu** (Electrical and Computer Engineering), US Department of Energy, \$4,998, "Collegiate Wind Competition 2019."

NATIONAL GAS MACHINERY LABORATORY

Figge, Eric R., and Jones, Byron W., Pipeline Research Council International, Inc., \$18,263, "CEPM for Turbochargers."

Jones, Byron W., and Figge, Eric R., Pipeline Research Council International, Inc., \$18,263, "CEPM for Turbochargers."

TECHNOLOGY DEVELOPMENT INSTITUTE

Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A.,** US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Bloomfield, John J., Berggren, Quinton J., Kramer, Bradley A., Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Bloomfield, John J., Berggren, Quinton J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A.,** US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Kramer, Bradley A., Berggren, Quinton J., Bloomfield, John J., Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,000, "Economic Development Support Grant."

Kramer, Bradley A., and Tucker, Jeffrey W., US Small Business Administration, \$125,000, "Great Plains Technology and Manufacturing Cluster."

Lanz, Bret E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Lanz, Bret E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A.,** US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Merritt, Bryan E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Lanz, Bret E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Merritt, Bryan E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A.,** US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Morgan, Heather M., and Tucker, Jeffrey W., US Department of Agriculture, \$120,000, "Technical Assistance to Rural Kansas Communities to Include Regional Thinking, Community Engagement, and Economic Efficiency in Community Facilities Projects."

Picolet, Jacob L., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Lanz, Bret E., Merritt, Bryan E., Tucker, Jeffrey W., and Zecha, Ryan A., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Picolet, Jacob L., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Merritt, Bryan E., Tucker, Jeffrey W., and Zecha, Ryan A.,** US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Tucker, Jeffrey W., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., and Zecha, Ryan A., Kansas Department of Commerce, \$21,200, "Economic Development Support Grant."

Tucker, Jeffrey W., Support Funds, \$109,500, "Support Funds 52% Account."

Tucker, Jeffrey W., US Department of Agriculture, \$99,500, "Off Campus Service Agreement."

Tucker, Jeffrey W., and Morgan, Heather M., US Department of Agriculture, \$30,000, "Technical Assistance to Rural Kansas Communities to Include Regional Thinking, Community Engagement, and Economic Efficiency in Community Facilities Projects."

Tucker, Jeffrey W., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., and Zecha, Ryan A.,** US Department of Commerce, \$107,325 (includes \$21,200 from KDOC), "The K-State Technology Development Institute (TDI)."

Tucker, Jeffrey W., and Kramer, Bradley A., US Small Business Administration, \$375,000, "Great Plains Technology and Manufacturing Cluster."

Zecha, Ryan A., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A., Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., and Tucker, Jeffrey W., Kansas Department of Commerce, \$2,800, "Economic Development Support Grant."

Zecha, Ryan A., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), **Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., and Tucker, Jeffrey W.**, US Department of Commerce, \$14,175 (includes \$2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

COLLEGE OF HEALTH AND HUMAN SCIENCES

APPAREL, TEXTILES, AND INTERIOR DESIGN

Kaup, Migette L., and Doll, Gayle (Dean of Human Ecology), US Department of Health and Human Services, \$146,166, "PEAK 2.0 Evaluation."

LeHew, Melody L. A., Dollarhide, Patricia J. (Dean of Veterinary Medical Center), **Kwon, Junehee** (Hospitality Management), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Wu, Yingying, Gneiss Concepts, LLC, \$5,000, "Gneiss Concepts MOA."

DEAN OF HUMAN ECOLOGY

Buckwalter, John, Cortez, Anita R. (Vice Provost for Undergraduate Studies), and **Rosenkranz, Sara** (Food, Nutrition, Dietetics and Health), US Department of Health and Human Services, \$26,668, "Kansas Bridges to the Future."

Doll, Gayle, and Syme, Maggie L., Patrick and Catherine Weldon Donaghue Medical Research Fund, \$52,335, "Resident and Institutional Outcomes of Person Centered Care: A Longitudinal Evaluation of the Promoting Excellent Alternative in Kansas Nursing Homes."

Doll, Gayle, and Kaup, Migette L. (Apparel, Textiles, and Interior Design), US Department of Health and Human Services, \$146,166, "PEAK 2.0 Evaluation."

Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, \$1,977,450, "Early Childhood Workforce Development Grant."

Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, \$237,600, "Kansas Child Care Training Opportunities."

Fees, Bronwyn S., Kansas Department for Children and Families, \$315,377, "KCCTO - Statewide Infant - Toddler Specialist Network."

Syme, Maggie L., and Doll, Gayle, Patrick and Catherine Weldon Donaghue Medical Research Fund, \$78,503, "Resident and Institutional Outcomes of Person Centered Care: A Longitudinal Evaluation of the Promoting Excellent Alternative in Kansas Nursing Homes."

Toews, Michelle L., Johannes, Elaine M. (School of Family Studies and Human Services), and **Vennum, Amber V.** (School of Family Studies and Human Services), US Department of Health and Human Services, \$186,436, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

Toews, Michelle L., US Department of Health and Human Services, \$106,632, "Strengthening Relationships/Strengthening Families (SR/SF)."

FOOD, NUTRITION, DIETETICS AND HEALTH

Haub, Mark D., and Rosenkranz, Sara, Isagenix International, LLC, \$620, "Determining the Impact of Meal Replacement Products on Human Blood Glucose Levels."

Haub, Mark D., and Rosenkranz, Sara, MGP Ingredients, Inc., \$11,933, "Glycemic and Insulinemic Response to Nutritional Bars With or Without Added Fibersym RW."

Kidd, Tandalayo, US Department of Agriculture, \$51,518, "'Get Fruved:' A Peer-Led, Train-the-Trainer Social Marketing Intervention to Increase Fruit and Vegetable Intake and Prevent Childhood Obesity."

Koppel, Kadri, Swaney-Stueve, Marianne, and Talavera, Martin, Garmin International, Inc., \$8,607, "Assessment of Teen Stress Behavior and its Relation to Health."

Koppel, Kadri, JM Smucker Company, \$6,000, "Descriptive Analysis of Dog Treats."

Koppel, Kadri, Kemin Industries, \$35,000, "Dog Preference Testing."

Koppel, Kadri, Nestlé Purina PetCare Global Resources, Inc., \$35,000, "Service Agreement: Pet Food Lexicon Development and Validation."

Lindshield, Brian L., Bhadriraju, Subramanyam (Grain Science and Industry), **Campabadal Teran, Carlos** (Grain Science and Industry), **Harvey, Jagger J.** (Dean of Agriculture and Director of AES), **Leslie, John F.** (Plant Pathology), **Lilja, Nina K.** (International Agricultural Programs), and **Ulmer, Jonathan** (Communications and Agricultural Education), US Agency for International Development, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Pacinelli, Lauren E., and Thiele, Ryan, Mid-America Athletic Trainers' Association (MAATA), \$2,000, "Effect of Low-Load Low-Intensity Training with Blood Flow Restriction on the Triceps Surae and Achilles Tendon."

Rosenkranz, Richard R., US Department of Agriculture, \$22,663, "Dissemination of the Evidence-Based SWITCH Program for Childhood Obesity Prevention."

Rosenkranz, Richard R., US Department of Health and Human Services, \$14,744, "Whole-of-Community Systems Intervention for Youth Population Physical Activity."

Rosenkranz, Sara, and Ade, Carl (Kinesiology), California Strawberry Commission, \$49,939, "Integrated Cardiovascular and Metabolic Effects of Strawberry Consumption in Overweight and Obese Individuals."

Rosenkranz, Sara, and Haub, Mark D., Isagenix International, LLC, \$2,478, "Determining the Impact of Meal Replacement Products on Human Blood Glucose Levels."

Rosenkranz, Sara, and Haub, Mark D., MGP Ingredients, Inc., \$27,843, "Glycemic and Insulinemic Response to Nutritional Bars With or Without Added Fibersym RW."

Rosenkranz, Sara, Buckwalter, John (Dean of Human Ecology), and **Cortez, Anita R.** (Vice Provost for Undergraduate Studies), US Department of Health and Human Services, \$213,346, "Kansas Bridges to the Future."

Sauer, Kevin L., Roberts, Kevin R. (Hospitality Management), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$290,865, "Center for Food Safety in Child Nutrition Programs."

Swaney-Stueve, Marianne, Koppel, Kadri, and Talavera, Martin, Garmin International, Inc., \$11,476, "Assessment of Teen Stress Behavior and its Relation to Health."

Swaney-Stueve, Marianne, Hill's Pet Nutrition, Inc., \$52,500, "Small and Toy Consumer Research Proposal."

Swaney-Stueve, Marianne, Hill's Pet Nutrition, Inc., \$24,190, "Toy Dog Kibble Optimization Study."

Talavera, Martin, Koppel, Kadri, and **Swaney-Stueve, Marianne**, Garmin International, Inc., \$8,607, "Assessment of Teen Stress Behavior and its Relation to Health."

Thiele, Ryan, and **Pacinelli, Lauren E.**, Mid-America Athletic Trainers' Association (MAATA), "Effect of Low-Load Low-Intensity Training with Blood Flow Restriction on the Triceps Surae and Achilles Tendon."

Thiele, Ryan, and **Williams, Jeffrey**, Mid-America Athletic Trainers' Association (MAATA), "The Effects of Aerobic Exercise and Peristaltic Pulse Compression on Neuromuscular Performance Following Exercise-induced Muscle Damage."

Wang, Weiqun (George), US Department of Agriculture, \$56,984, "Determining the Bioavailability of Sorghum Phenolic Compounds."

Williams, Jeffrey, and **Thiele, Ryan**, Mid-America Athletic Trainers' Association (MAATA), \$2,000, "The Effects of Aerobic Exercise and Peristaltic Pulse Compression on Neuromuscular Performance Following Exercise-induced Muscle Damage."

HOSPITALITY MANAGEMENT

Jang, Jichul, Kansas State University Foundation, \$3,500, "Safe and Healthy Sushi Cooking for Elderly People (Hyunghwa Oh)."

Kwon, Junehee, **Dollarhide, Patricia J.** (Dean of Veterinary Medical Center), **LeHew, Melody L. A.** (Apparel, Textiles, and Interior Design), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Roberts, Kevin R., **Sauer, Kevin L.** (Food, Nutrition, Dietetics and Health), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$290,865, "Center for Food Safety in Child Nutrition Programs."

KINESIOLOGY

Ade, Carl, and **Rosenkranz, Sara** (Food, Nutrition, Dietetics and Health), California Strawberry Commission, \$21,402, "Integrated Cardiovascular and Metabolic Effects of Strawberry Consumption in Overweight and Obese Individuals."

Ade, Carl, National Aeronautics and Space Administration, \$50,535, "Omics and Biochemical Markers of Cardiovascular and Bone Health: Relationship with Bedrest and Standard Physiological Measures."

Ade, Carl, **Copp, Steven**, and **Musch, Timothy I.**, US Department of Health and Human Services, \$59,848, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."

Besenyi, Gina M., **Heinrich, Katie M.**, and **Kliwer, Brandon W.** (School of Leadership Studies), Engagement Scholarship Consortium, \$1,040, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Besenyi, Gina M., US Department of Health and Human Services, \$28,991, "eCPAT: Advancing Public Park Information and Technology Resources to Diverse Audiences for Healthy Communities."

Colburn, Trenton D., **Musch, Timothy I.**, and **Poole, David C.** (Anatomy and Physiology), US Department of Health and Human Services, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Copp, Steven, **Ade, Carl**, and **Musch, Timothy I.**, US Department of Health and Human Services, \$209,467, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."

Harms, Craig A., and Heinrich, Katie M., US Department of Health and Human Services, \$46,245, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Heinrich, Katie M., Besenyi, Gina M., and Kliewer, Brandon W. (School of Leadership Studies), Engagement Scholarship Consortium, \$1,040, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Heinrich, Katie M., and Harms, Craig A., US Department of Health and Human Services, \$416,209, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Musch, Timothy I., Ade, Carl, and Copp, Steven, US Department of Health and Human Services, \$29,924, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."

Musch, Timothy I., Colburn, Trenton D., and Poole, David C. (Anatomy and Physiology), US Department of Health and Human Services, \$8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Poole, David C., Colburn, Trenton D., and Musch, Timothy I. (Anatomy and Physiology), US Department of Health and Human Services, \$8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

SCHOOL OF FAMILY STUDIES AND HUMAN SERVICES

Anderson, Jared R., and Stith, Sandra M., US Department of Agriculture, \$251,160, "KSU/USAF 2017 FAP Research Project."

Baptist, Joyce, EMDR Research Foundation, \$25,000, "Treating Suicidal Drivers with EMDR Therapy: A Randomized Controlled Trial."

Butler, Meredith A., US Department of Agriculture, \$2,688,210, "4-H Military Partnerships and Outreach Support Program."

Butler, Meredith A., US Department of Agriculture, \$500,000, "CYFAR 4-H Military Partnership Professional Development and Technical Assistance Program."

Durtschi, Jared A., US Department of Health and Human Services, \$6,000, "Determining Functional Components of an Evidence-Based Parenting Intervention."

Jager, Shanna K., US Department of Health and Human Services, \$576,187, "Technical Support for the Department for Children and Families Strategic Development, Faith-Based and Community Initiative."

Jager, Shanna K., US Department of Health and Human Services, \$477,144, "Technical Support for the Department for Children and Families Strategic Development, Faith-Based and Community Initiative."

Johannes, Elaine M., Toews, Michelle L. (Dean of Human Ecology), and **Vennum, Amber V.**, US Department of Health and Human Services, \$41,430, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

Johannes, Elaine M., Chladny, Bruce A. (County Agents - Metropolitan Sector), **Paul, Gregory** (Communication Studies), and **Williams, L. Susan** (Sociology, Anthropology, and Social Work), US Department of Justice, \$146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

Kiss, D. Elizabeth, US Department of Agriculture, \$5,000, "Integrating and Sustaining Financial Capability Services in Rural Healthcare Delivery."

Stith, Sandra M., and Anderson, Jared R., US Department of Agriculture, \$2,260,436, "KSU/USAF 2017 FAP Research Project."

Vennum, Amber V., Johannes, Elaine M., and Toews, Michelle L. (Dean of Human Ecology), US Department of Health and Human Services, \$186,436, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

COLLEGE OF VETERINARY MEDICINE

ANATOMY AND PHYSIOLOGY

Choi, Seongo, QuadMedicine, \$26,000, "Development of Flexible Microneedle Patches for Drug Delivery Through Contoured Skin Surfaces."

Choi, Seongo, US Department of Agriculture, \$65,000, "Spray-formed Dissolving Microneedle Patches for Enhanced Stability and Needle-free Delivery of Vaccines."

Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), **Lin, Zhoumeng,** and **Magnin, Geraldine C.,** American Association of Swine Veterinarians Foundation, \$2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Coetzee, Johann F., and Viscardi, Abbie, National Pork Board, \$50,927, "Evaluation of Transmammary-Delivered Firocoxib and a Vapocoolant Spray to Alleviate Pain in Piglets after Surgical Castration and Tail Docking."

DeLong, Robert K., Johnson Center for Basic Cancer Research, \$1,400, "Graduate Travel Award for Johnson Center for Basic Research."

DeLong, Robert K., and Lin, Zhoumeng, US Department of Health and Human Services, \$3,800, "Physiologically Based Pharmacokinetic Modeling and Analysis of Nanoparticle Delivery to Tumors."

Ensley, Steve M., and Magnin-Bissel, Geraldine C., US Department of Health and Human Services, \$4,867, "Expansion and Validation of Testing Methods for Food Contaminants in Animal Diagnostic Specimens."

Ensley, Steve M., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$22,800, "RSVDL Vet-LRN Veterinary Diagnostic Laboratory Program."

Ensley, Steve M., Lubbers, Brian (Veterinary Diagnostic Laboratory), and **Magnin, Geraldine C.,** US Department of Health and Human Services, \$50,769, "Vet-LIRN Network Capacity -building Project for Kansas State University."

Kukanich, Stanley P., and KuKanich, Katherine (Clinical Sciences), Morris Animal Foundation, \$500, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate (for Kallie Woodruff - VRSP Student)."

Kukanich, Stanley P., and KuKanich, Katherine (Clinical Sciences), Winn Feline Foundation, \$2,546, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate."

Lin, Zhoumeng, Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), and **Magnin, Geraldine C.,** American Association of Swine Veterinarians Foundation, \$2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Lin, Zhoumeng, and Jaber-Douraki, Majid (Mathematics), US Department of Agriculture, \$221,000, "Food Animal Residue Avoidance Databank (FARAD)."

Lin, Zhoumeng, and DeLong, Robert K., US Department of Health and Human Services, \$72,200, "Physiologically Based Pharmacokinetic Modeling and Analysis of Nanoparticle Delivery to Tumors."

Magnin, Geraldine C., Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), and **Lin, Zhoumeng**, American Association of Swine Veterinarians Foundation, \$2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Magnin, Geraldine C., Chao, Michael (Animal Sciences and Industry), and **O'Quinn, Travis G.** (Animal Sciences and Industry), National Cattlemen's Beef Association, \$2,700, "Utilizing Collagen Crosslinks as Markers for Sensory Improvement of Beef Shin/Shank Cuts."

Magnin, Geraldine C., Ensley, Steve M., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$49,276, "Vet-LIRN Network Capacity -building Project for Kansas State University."

Magnin-Bissel, Geraldine C., and Ensley, Steve M., US Department of Health and Human Services, \$92,468, "Expansion and Validation of Testing Methods for Food Contaminants in Animal Diagnostic Specimens."

Musch, Timothy I., Colburn, Trenton D. (Kinesiology), and **Poole, David C.** (Kinesiology), US Department of Health and Human Services, \$8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Poole, David C., Colburn, Trenton D. (Kinesiology), and **Musch, Timothy I.**, US Department of Health and Human Services, \$8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Shi, Jishu N., and Vanlandingham, Dana L. (Diagnostic Medicine/Pathobiology), Provimi North American Inc., \$32,354, "Inactivation of African Swine Fever Virus in Feed Supplements."

Shi, Jishu N., US Department of Agriculture, \$227,700, "Research Supporting Workforce Development for the National Bio-Agro Defense Facility: Development of CSF Subunit Vaccines."

Shi, Jishu N., Blecha, Frank (Dean of Veterinary Medical Center), and **Wang, Lei** (Dean of Veterinary Medical Center), Yebio Bioengineering Co. Ltd of Qingdao, \$67,500, "Yebio Scholarship/US-China Joint DVM Program."

Shi, Jishu N., Blecha, Frank (Dean of Veterinary Medical Center), and **Wang, Lei** (Dean of Veterinary Medical Center), Zoetis LLC, \$90,000, "International Veterinary Collaboration for China DVM Program."

Viscardi, Abbie, and Coetzee, Johann F., National Pork Board, \$50,927, "Evaluation of Transmammary-Delivered Firocoxib and a Vapocoolant Spray to Alleviate Pain in Piglets after Surgical Castration and Tail Docking."

Weiss, Mark L., and Bai, Jianfa (Diagnostic Medicine/Pathobiology), Biological Industries Ltd, \$33,750, "Development of qPCR Mycoplasma Kit, Stage 1."

Weiss, Mark L., Kansas State University Foundation, \$15,000, "Innovative Research Award."

Xiong, Yulan, Kansas State University, \$53,200, "Understanding the ArfGAP1 Function in LRRK2-linked Neuronal Plasticity in Parkinson's Disease."

Xiong, Yulan, Parkinson's Disease Foundation, \$100,000, "Understanding LRRK2 GTPase Function in Parkinson's Disease."

Xiong, Yulan, US Department of Health and Human Services, \$128,520, "The Role of Aging in LRRK2-Associated Parkinson's Disease."

Yu, Jianzhong, Kansas State University Foundation, \$25,000, "KSU Cancer Center - Innovative Research Award."

Yu, Jianzhong, Kansas State University Foundation, \$7,000, "KSU Cancer Center Summer Stipends Award."

Yu, Jianzhong, US Department of Health and Human Services, \$112,500, "Functional Characterization of a Novel Akt Substrate in InR/PI3K/Akt Signaling Pathway."

CLINICAL SCIENCES

Amachawadi, Raghavendra G., and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Alltech, Inc., \$11,650, "Technical Testing Services Agreement - Screening Compounds for Antimicrobial Activity Against *Fusobacterium Necrophorum*."

Amachawadi, Raghavendra G., and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Elanco Animal Health, \$38,380, "Development and Protection Assessment of *Fusobacterial* Leukotoxin-based Vaccines Augmented with Recombinant Leukotoxin and Recombinant Outer Membrane Protein against Bovine Liver Abscesses."

Amachawadi, Raghavendra G., Apley, Michael D., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.** (Animal Sciences and Industry), National Pork Board, \$71,434, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Amachawadi, Raghavendra G., and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Purina Animal Nutrition, LLC, \$24,654, "Evaluation of Antimicrobial Activities of Purina's Compounds on Major Bacterial Species Involved in Liver Abscesses of Cattle."

Amachawadi, Raghavendra G., Apley, Michael D., Lubbers, Brian (Veterinary Diagnostic Laboratory), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$819, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Apley, Michael D., Amachawadi, Raghavendra G., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.** (Animal Sciences and Industry), National Pork Board, \$14,287, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Apley, Michael D., Amachawadi, Raghavendra G., Lubbers, Brian (Veterinary Diagnostic Laboratory), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Apley, Michael D., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$201,000, "Characterization of Antimicrobial Use in Beef Feedlots and Dairies."

Beard, Warren L., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and **Prakash, Punit** (Electrical and Computer Engineering), National Science Foundation, \$21,061, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

Beard, Warren L., Biller, David S., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and **Prakash, Punit** (Electrical and Computer Engineering), US Department of Health and Human Services, \$26,615, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Biller, David S., Harkin, Kenneth R., Roush, James K., and White, Dana A. (Veterinary Health Center), MYOS RENS Technology Inc, \$1,944, "Evaluation of Fortetropin to Reverse Disuse Muscle Atrophy in Dogs after Tibial Plateau Leveling Osteotomy for Cranial Cruciate Ligament Rupture."

Biller, David S., Beard, Warren L., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and **Prakash, Punit** (Electrical and Computer Engineering), US Department of Health and Human Services, \$23,658, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Eshar, David, Herrin, Brian (Diagnostic Medicine/Pathobiology), **Schneider, Sarah M.** (Veterinary Diagnostic Laboratory), and **Schwartz, Diana** (Veterinary Diagnostic Laboratory), National Center for Veterinary Parasitology, \$2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Harkin, Kenneth R., and Hetrick, Merry Caitlin (Veterinary Health Center), MYOS RENS Technology Inc, \$10,250, "Evaluation of Fortetropin on Quality of Life and Activity in Geriatric Dogs."

Harkin, Kenneth R., Biller, David S., Roush, James K., and White, Dana A. (Veterinary Health Center), MYOS RENS Technology Inc, \$972, "Evaluation of Fortetropin to Reverse Disuse Muscle Atrophy in Dogs after Tibial Plateau Leveling Osteotomy for Cranial Cruciate Ligament Rupture."

Jugan, Maria C., Comparative Gastroenterology Society, \$11,986, "Correlation of Anemia, Iron Status, and Cobalamin in Cats with GI Disease."

Kleinhenz, Michael D., Coetzee, Johann F. (Anatomy and Physiology), **Lin, Zhoumeng** (Anatomy and Physiology), and **Magnin, Geraldine C.** (Anatomy and Physiology), American Association of Swine Veterinarians Foundation, \$2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

KuKanich, Katherine, and Reif, Kathryn E. (Computer Science), Foundation for Food and Agriculture Research, \$1,600, "Veterinary Student Research Fellowship for Summer of 2019."

KuKanich, Katherine, and Kukanich, Stanley P. (Anatomy and Physiology), Morris Animal Foundation, \$4,500, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate (for Kallie Woodruff - VRSP Student)."

KuKanich, Katherine, and Rost, Caroline M. (Dean of Veterinary Medical Center), US Department of Health and Human Services, \$4,750, "This is How We Role."

KuKanich, Katherine, and Kukanich, Stanley P. (Anatomy and Physiology), Winn Feline Foundation, \$4,729, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate."

Larson, Robert L., Amrine, David E. (Dean of Veterinary Medical Center), **Pendell, Dustin L.** (Agricultural Economics), **Weaber, Robert L.** (Animal Sciences and Industry), and **White, Bradley J.** (Dean of Veterinary Medical Center), American Angus Association, \$18,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

Roush, James K., Biller, David S., Harkin, Kenneth R., and White, Dana A. (Veterinary Health Center), MYOS RENS Technology Inc, \$2,916, "Evaluation of Fortetropin to Reverse Disuse Muscle Atrophy in Dogs after Tibial Plateau Leveling Osteotomy for Cranial Cruciate Ligament Rupture."

DEAN OF VETERINARY MEDICAL CENTER

Amrine, David E., Larson, Robert L. (Clinical Sciences), **Pendell, Dustin L.** (Agricultural Economics), **Weaber, Robert L.** (Animal Sciences and Industry), and **White, Bradley J.,** American Angus Association, \$36,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

Blecha, Frank, Shi, Jishu N. (Anatomy and Physiology), and **Wang, Lei**, Yebio Bioengineering Co. Ltd of Qingdao, \$15,000, "Yebio Scholarship/US-China Joint DVM Program."

Blecha, Frank, Shi, Jishu N. (Anatomy and Physiology), and **Wang, Lei**, Zoetis LLC, \$20,000, "International Veterinary Collaboration for China DVM Program."

Dollarhide, Patricia J., and **White, Bradley J.**, National Cattlemen's Beef Association, \$158,328, "Beef Sustainability 101: A Systems Approach to Decoding Sustainability Metrics for Non-Commercial Foodservice Professionals."

Dollarhide, Patricia J., **Kwon, Junehee** (Hospitality Management), **LeHew, Melody L. A.** (Apparel, Textiles, and Interior Design), and **White, Bradley J.**, US Department of Agriculture, \$12,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Rost, Caroline M., and **KuKanich, Katherine** (Clinical Sciences), US Department of Health and Human Services, \$250, "This is How We Role."

Thomson, Daniel U., **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), and **Volkova, Victoriya** (Diagnostic Medicine/Pathobiology), US Department of Agriculture, \$50,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."

Wang, Lei, Blecha, Frank, and **Shi, Jishu N.** (Anatomy and Physiology), Yebio Bioengineering Co. Ltd of Qingdao, \$67,500, "Yebio Scholarship/US-China Joint DVM Program."

Wang, Lei, Blecha, Frank, and **Shi, Jishu N.** (Anatomy and Physiology), Zoetis LLC, \$90,000, "International Veterinary Collaboration for China DVM Program."

White, Bradley J., **Amrine, David E.**, **Larson, Robert L.** (Clinical Sciences), **Pendell, Dustin L.** (Agricultural Economics), and **Weaber, Robert L.** (Animal Sciences and Industry), American Angus Association, \$30,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

White, Bradley J., American Association of Bovine Practitioners, \$4,000, "BCI Providing Online CE Platform for AABP."

White, Bradley J., Kansas Department of Agriculture, \$211,260, "Kansas Cattle Traceability Pilot Project."

White, Bradley J., and **Dollarhide, Patricia J.**, National Cattlemen's Beef Association, \$17,592, "Beef Sustainability 101: A Systems Approach to Decoding Sustainability Metrics for Non-Commercial Foodservice Professionals."

White, Bradley J., **Dollarhide, Patricia J.**, **Kwon, Junehee** (Hospitality Management), and **LeHew, Melody L. A.** (Apparel, Textiles, and Interior Design), US Department of Agriculture, \$6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

White, Bradley J., **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), **Renter, David G.** (Diagnostic Medicine/Pathobiology), and **Sanderson, Michael W.** (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$95,277, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

DIAGNOSTIC MEDICINE/PATHOBIOLOGY

Bai, Jianfa, and **Weiss, Mark L.** (Anatomy and Physiology), Biological Industries Ltd, \$11,250, "Development of qPCR Mycoplasma Kit, Stage 1."

Chang, Kyeong-Ok, Cocrysal Pharma, Inc., \$15,200, "Master Laboratory Service Agreement - Task Order #1."

Chang, Kyeong-Ok, and Kim, Yunjeong. US Department of Health and Human Services, \$367,462, "Small Molecule Protease Inhibitors against MERS-CoV."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Ajinomoto Heartland LLC, \$8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Biomin America Inc., \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Niederwerder, Megan, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), CEVA Biomune, \$20,045, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), CJ America, Inc., \$5,000, "Determining the Effects of Tryptophan Biomass on Growth Performance of 25- to 50- lb Nursery Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), CJ America, Inc., \$6,000, "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), DSM Nutritional Products AG, \$6,000, "Determining the Effects of High Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), ICM, Inc., \$5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), ICM, Inc., \$16,000, "Evaluation of High-Protein Distillers Dried Grains on Growth Performance and Carcass Characteristics of Growing-Finishing Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Iowa Select Farms, \$12,000, "Iowa Select Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Jefe Nutrition, Inc., \$9,000, "Determining the Effects of Xylanase on Growth Performance, Carcass Characteristics, and Economics of Growing-finishing Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry),

and Industry), Kemin Industries, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Micronutrients, \$8,000, "Effects of Feeding Intellibond CII Throughout Finishing or Via a Withdrawal Strategy on Finishing Pig Growth Performance, Carcass Characteristics, and Economic Return."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Micronutrients, \$12,000, "Micronutrients Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$20,721 (includes \$6,000 from 3rd Party Match), "Improving Performance of Finishing Pigs with Supplemental Val, Ile, and Trp: Validating a Meta-Analysis Model."

Dritz, Steven S., Amachawadi, Raghavendra G. (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), **Nagaraja, Tiruvoor G.**, and **Tokach, Michael D.** (Animal Sciences and Industry), National Pork Board, \$14,287, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan, Rowland, Raymond R. R., Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$17,178, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), New Fashion Pork, \$6,400, "New Fashion Pork Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), NutriQuest, \$2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), OLMIX, \$6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Origination Inc, \$12,000, "Comparing the Effects of Different Phytase Sources on the Growth Performance and Bone Mineralization of Nursery Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Origination Inc, \$12,000, "Determination of Efficacy of a Novel Phytase Source in Nursery Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), PIC North America (PIC USA, Inc.), \$12,000, "PIC Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Pipestone Grow Finish, \$12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Purco, \$5,400, "PURCO Project."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Purina Animal Nutrition, LLC, \$10,137, "Assessing the Effects of MCFA on PEDV Quantity and Infectivity-Phase 3 Bioassay."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Sustainable Nutrition S.I., \$5,000, "Effect of Supplementation of Monomix and/or ZnO on Growth Performance of Nursery Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), SVC Research, LLC, \$16,000, "KSU Applied Swine Nutrition Fellowship."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan,** and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$8,702, "A Validated Method to Test Bulk Feed Products and Applying it to Monitoring Shipments for Pathogen Contamination."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan,** and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$15,478, "Assessing Distribution and Mitigation of Senecavirus A, a Foot and Mouth Disease Surrogate, in a Swine Feed Mill."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan, Rowland, Raymond R. R., Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$631, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Paulk, Chad B.** (Grain Science and Industry), **Stark, Charles** (Grain Science and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Syngenta Seeds, Inc., \$24,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), United Soybean Board, \$17,736, "Benefit of High Levels of Soybean Meal in Diets Fed on Commercial Swine Farms."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), United Soybean Board, \$9,699, "Determining the Productive Energy Content of Soybean Meal."

Dryden, Michael W., and Herrin, Brian, Zoetis LLC, \$64,758, "Evaluation of a Topical Sarolaner-selamectin Combination to Control Flea Populations on Naturally Infested Cats in Private Residences in Tampa, FL - 2019."

Faburay, Bonto, Fang, Ying, Li, Yanhua, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, \$9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Fang, Ying, Faburay, Bonto, Li, Yanhua, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, \$54,670, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Fang, Ying, US Department of Agriculture, \$227,700, "Development of Novel Foot and Mouth Disease Virus with Mutations in Lpro for Evaluation As Live Attenuated Vaccine (LAV) Candidates."

Ganta, Roman Reddy R., ABAXIS, Inc., \$48,884, "Indirect Fluorescent Antibody Test Assessment of Ehrlichia, Anaplasma and Borrelia Species Infections in Dogs."

Ganta, Roman Reddy R., Elanco Animal Health, \$216,235, "Modifying Ehrlichia Attenuated Vaccine Constructs."

Ganta, Roman Reddy R., Merial, Inc., \$72,000, "Evaluation of Clinical Protection Afforded by Prototypes PNAG Vaccines in an Ehrlichia Canis Laboratory Model in Dogs."

Ganta, Roman Reddy R., Saint George's University, \$60,000, "Training Grant Funds Work Agreement - Postdoctoral Scholars Program (PSP) Training Grant."

Hardwidge, Philip R., and Richt, Juergen, Kansas Board of Regents, \$20,000, "Laser Capture Microdissection Instrumentation for the COBRE Center of Emerging and Zoonotic Infectious Diseases (EZID)."

Hardwidge, Philip R., US Department of Health and Human Services, \$7,018, "KUCR CBID CoBRE Mentor for Dr. Stephanie Shames."

Hardwidge, Philip R., US Department of Health and Human Services, \$281,593, "Using Anti-Inflammatory Bacterial Proteins to Treat Psoriasis."

Herrin, Brian, Eshar, David (Clinical Sciences), **Schneider, Sarah M.** (Veterinary Diagnostic Laboratory), and **Schwartz, Diana** (Veterinary Diagnostic Laboratory), National Center for Veterinary Parasitology, \$5,948, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Herrin, Brian, and Dryden, Michael W., Zoetis LLC, \$64,758, "Evaluation of a Topical Sarolaner-selamectin Combination to Control Flea Populations on Naturally Infested Cats in Private Residences in Tampa, FL - 2019."

Huang, Yan-Jang S., Higgs, Stephen (Biosecurity Research Institute), and **Vanlandingham, Dana L.**, BioNexus KC, \$30,000, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

Huang, Yan-Jang S., and Vanlandingham, Dana L., Cerus Corporation, \$73,202, "Evaluation of West Nile Virus Inactivation in Blood Products - Phase IV."

Kim, Yunjeong, and Chang, Kyeong-Ok, US Department of Health and Human Services, \$367,462, "Small Molecule Protease Inhibitors against MERS-CoV."

Li, Yanhua, Faburay, Bonto, Fang, Ying, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, \$9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Ma, Wenjun, US Department of Agriculture, \$56,706, "Antiviral Potency and Functional Novelty of Porcine Interferon-omega Subtype."

Ma, Wenjun, US Department of Health and Human Services, \$409,517, "Biology and Infection of Bats with Novel Bat Influenza Viruses."

Ma, Wenjun, and **Richt, Juergen**, US Department of Health and Human Services, \$39,149, "Host Dependence of Influenza A Virus Reassortment."

Ma, Wenjun, and **Richt, Juergen**, US Department of Health and Human Services, \$151,649, "Syndromic Surveillance of Swine Influenza Viruses in the United States."

Morozov, Igor, and **Richt, Juergen**, Farmak International Holding GmbH, \$11,103, "Research Task Order."

Morozov, Igor, and **Richt, Juergen**, Farmak International Holding GmbH, \$64,231, "Research Task Order - Proposed Studies in Chickens to Establish Influenza A Challenge Animal Model for Efficacy Evaluation of Farmak's Antiviral Compound Amizon."

Morozov, Igor, and **Richt, Juergen**, National Pork Board, \$14,941, "Efficacy of Current High-throughput Sample Processing Methods for Detection of ASFV by Real-time PCr."

Morozov, Igor, Richt, Juergen, and **Trujillo, Jessie D.**, US Department of Homeland Security, \$277,500, "Proj 1: Point of Care Diagnostics for the Field Identification of High Priority Transboundary Animal Diseases. Proj 2: Development of an Efficacious DIVA Compatible Vaccine for Rift Valley Fever Virus and Complementary DIVA Diagnostic."

Mosier, Derek A., **Montelone, Beth A.** (Research Vice President), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$1,323,680, "NBAF Scientist Training Program."

Mosier, Derek A., US Department of Health and Human Services, \$537,730, "IPA for Tammy Beckham."

Mwangi, Waithaka, US Department of Health and Human Services, \$61,090, "Defining clinically relevant viral epitopes with cow antibodies."

Nagaraja, Tiruvoor G., and **Amachawadi, Raghavendra G.** (Clinical Sciences), Alltech, Inc., \$11,650, "Technical Testing Services Agreement - Screening Compounds for Antimicrobial Activity Against Fusobacterium Necrophorum."

Nagaraja, Tiruvoor G., and **Amachawadi, Raghavendra G.** (Clinical Sciences), Elanco Animal Health, \$38,380, "Development and Protection Assessment of Fusobacterial Leukotoxin-based Vaccines Augmented with Recombinant Leukotoxin and Recombinant Outer Membrane Protein against Bovine Liver Abscesses."

Nagaraja, Tiruvoor G., **Amachawadi, Raghavendra G.** (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), **Dritz, Steven S.**, and **Tokach, Michael D.** (Animal Sciences and Industry), National Pork Board, \$28,574, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Nagaraja, Tiruvoor G., and **Amachawadi, Raghavendra G.** (Clinical Sciences), Purina Animal Nutrition, LLC, \$24,654, "Evaluation of Antimicrobial Activities of Purina's Compounds on Major Bacterial Species Involved in Liver Abscesses of Cattle."

Nagaraja, Tiruvoor G., **Amachawadi, Raghavendra G.** (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), and **Lubbers, Brian** (Veterinary Diagnostic Laboratory), Sensient Technologies Corporation, \$117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Nagaraja, Tiruvoor G., Thomson, Daniel U. (Dean of Veterinary Medical Center), and **Volkova, Victoriya**, US Department of Agriculture, \$50,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."

Nagaraja, Tiruvoor G., Renter, David G., Sanderson, Michael W., and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Health and Human Services, \$23,819, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Nguyen, Thu A., Boehringer Ingelheim, \$20,000, "2019 Boehringer Ingelheim Veterinary Scholars Program."

Nguyen, Thu A., US Department of Health and Human Services, \$128,586, "Bio-active H9e Peptide Derivatives Form Novel Hydrogels."

Niederwerder, Megan, DeRouchey, Joel M. (Animal Sciences and Industry), **Dritz, Steven S., Goodband, Robert D.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), CEVA Biomune, \$20,045, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

Niederwerder, Megan, Elanco Animal Health, \$367,500, "Evaluating the Effects of Prophylactic Gut Microbiota Transplantation on the Time Course of Co-infection with PRRSV and PCV2d."

Niederwerder, Megan, and **Rowland, Raymond R. R.**, Kemin Industries, \$106,250, "Understanding the Survivability and Infectivity of African Swine Fever Virus In Various Environments."

Niederwerder, Megan, Faburay, Bonto, Fang, Ying, Li, Yanhua, and **Rowland, Raymond R. R.**, National Pork Board, \$9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Niederwerder, Megan, Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Rowland, Raymond R. R., Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$106,888, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Niederwerder, Megan, Purina Animal Nutrition, LLC, \$146,900, "Investigating Viral Mitigation in Feed."

Niederwerder, Megan, and **Rowland, Raymond R. R.**, Purina Animal Nutrition, LLC, \$106,250, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Niederwerder, Megan, Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$8,702, "A Validated Method to Test Bulk Feed Products and Applying it to Monitoring Shipments for Pathogen Contamination."

Niederwerder, Megan, Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$5,159, "Assessing Distribution and Mitigation of Senecavirus A, a Foot and Mouth Disease Surrogate, in a Swine Feed Mill."

Niederwerder, Megan, Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Rowland, Raymond R. R., Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$14,724, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Renter, David G., Merck Animal Health, \$33,744, "Assessing the Economics Associated with Cattle Health and Production Research Trial Results."

Renter, David G., Nagaraja, Tiruvoor G., Sanderson, Michael W., and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Health and Human Services, \$11,910, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Richt, Juergen, Careside Co. Ltd, \$50,000, "Testing and Evaluation Service Agreement."

Richt, Juergen, and **Morozov, Igor,** Farmak International Holding GmbH, \$16,655, "Research Task Order."

Richt, Juergen, and **Morozov, Igor,** Farmak International Holding GmbH, \$96,346, "Research Task Order - Proposed Studies in Chickens to Establish Influenza A Challenge Animal Model for Efficacy Evaluation of Farmak's Antiviral Compound Amizon."

Richt, Juergen, and **Hardwidge, Philip R.,** Kansas Board of Regents, \$80,000, "Laser Capture Microdissection Instrumentation for the COBRE Center of Emerging and Zoonotic Infectious Diseases (EZID)."

Richt, Juergen, and **Morozov, Igor,** National Pork Board, \$84,666, "Efficacy of Current High-throughput Sample Processing Methods for Detection of ASFV by Real-time PCr."

Richt, Juergen, US Department of Agriculture, \$297,330, "Evaluation of Foot-and-Mouth Disease Virus Vaccine Candidates with Broad Breadth of Protection Against Diverse Virus Strains."

Richt, Juergen, US Department of Agriculture, \$52,800, "Molecular Analytical Methods Development to Support Arbovirus Research."

Richt, Juergen, US Department of Agriculture, \$347,512, "Research Supporting Workforce Development for the National Bio-Agro Defense Facility: Virus-Host Interactions of Vesicular Stomatitis Virus."

Richt, Juergen, US Department of Agriculture, \$371,000, "Understanding Pathogenesis and Epidemiology for Controlling Foreign Animal Diseases."

Richt, Juergen, US Department of Health and Human Services, \$157,263, "Harnessing Natural Killer T Cells to Counteract Swine Influenza."

Richt, Juergen, and **Ma, Wenjun,** US Department of Health and Human Services, \$58,723, "Host Dependence of Influenza A Virus Reassortment."

Richt, Juergen, and **Ma, Wenjun,** US Department of Health and Human Services, \$151,649, "Syndromic Surveillance of Swine Influenza Viruses in the United States."

Richt, Juergen, and **Vanlandingham, Dana L.,** US Department of Homeland Security, \$167,579, "Biological Safety Level 3 (BSL-3) Training Program."

Richt, Juergen, US Department of Homeland Security, \$97,583, "Develop and Verify Performance of Novel Screening, Surveillance and Diagnostic Tools."

Richt, Juergen, Morozov, Igor, and **Trujillo, Jessie D.,** US Department of Homeland Security, \$277,500, "Proj 1: Point of Care Diagnostics for the Field Identification of High Priority Transboundary Animal Diseases. Proj 2: Development of an Efficacious DIVA Compatible Vaccine for Rift Valley Fever Virus and Complementary DIVA Diagnostic."

Rowland, Raymond R. R., and **Niederwerder, Megan,** Kemin Industries, \$18,750, "Understanding the Survivability and Infectivity of African Swine Fever Virus In Various Environments."

Rowland, Raymond R. R., Faburay, Bonto, Fang, Ying, Li, Yanhua, and Niederwerder, Megan, National Pork Board, \$9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Rowland, Raymond R. R., Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$17,178, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Rowland, Raymond R. R., PIC North America (PIC USA, Inc.), \$37,542, "Task Order - Cell based PRRSV Challenge."

Rowland, Raymond R. R., PIC USA, Inc., \$25,950, "Task Order #2 - Evaluation of PDCoV Infection in ANPEP KO Pigs."

Rowland, Raymond R. R., PIC USA, Inc., \$60,652, "Task Order 3 - PRRSV Challenge of CD163 Modified and WT Pigs."

Rowland, Raymond R. R., and **Niederwerder, Megan**, Purina Animal Nutrition, LLC, \$18,750, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

Rowland, Raymond R. R., Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan, Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$2,103, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Rowland, Raymond R. R., and **Spears, Jacqueline D.** (Dean of Education), US Department of Agriculture, \$89,434, "Capacity Building in Animal Health through Biotechnology training for High School Science Teachers."

Rowland, Raymond R. R., US Department of Agriculture, \$40,030, "Genetically Improving Resistance of Pigs to PRRS Virus Infection."

Sanderson, Michael W., US Department of Agriculture, \$44,700, "A Secure Beef Supply (SBS) Plan for Business Continuity in a Foot and Mouth Disease Outbreak."

Sanderson, Michael W., Nagaraja, Tiruvoor G., Renter, David G., and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Health and Human Services, \$107,187, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Springer, Nora L., Johnson Center for Basic Cancer Research, \$23,709, "Premature Adipose Tissue Aging During Childhood Obesity Promotes Adulthood Colorectal Cancer."

Springer, Nora L., Johnson Center for Basic Cancer Research, \$8,983, "Summer Stipend Award for Brandy Kastl."

Thomson, Daniel U., Blasi, Dale A. (Animal Sciences and Industry), **DeRouchey, Joel M.** (Animal Sciences and Industry), **O'Quinn, Travis G.** (Animal Sciences and Industry), **Tarpoff, Anthony J.** (Animal Sciences and Industry), and **Tonsor, Glynn T.** (Agricultural Economics), National Cattlemen's Beef Association, \$7,507, "Development of a Production and Economic Framework that will Measure and Quantify the Sustainable Attributes of Limit Feeding During the Backgrounding Phase and on Subsequent Feedlot Cattle Performance, Health and Carcass Merit."

Trujillo, Jessie D., Morozov, Igor, and **Richt, Juergen**, US Department of Homeland Security, \$370,000, "Proj 1: Point of Care Diagnostics for the Field Identification of High Priority Transboundary Animal Diseases. Proj 2:

Development of an Efficacious DIVA Compatible Vaccine for Rift Valley Fever Virus and Complementary DIVA Diagnostic."

Van Der Merwe, Deon, Flippo, Daniel (Biological and Agricultural Engineering), **Schapaugh Jr, William T.** (Agronomy), and **Sharda, Ajay** (Biological and Agricultural Engineering), Kansas Soybean Commission, \$900, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Vanlandingham, Dana L., Higgs, Stephen (Biosecurity Research Institute), and **Huang, Yan-Jang S.**, BioNexus KC, \$17,500, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

Vanlandingham, Dana L., and Huang, Yan-Jang S., Cerus Corporation, \$73,202, "Evaluation of West Nile Virus Inactivation in Blood Products - Phase IV."

Vanlandingham, Dana L., and Shi, Jishu N. (Anatomy and Physiology), Provimi North American Inc., \$32,354, "Inactivation of African Swine Fever Virus in Feed Supplements."

Vanlandingham, Dana L., and Richt, Juergen, US Department of Homeland Security, \$71,820, "Biological Safety Level 3 (BSL-3) Training Program."

Volkova, Victoriya, Nagaraja, Tiruvor G., and Thomson, Daniel U. (Dean of Veterinary Medical Center), US Department of Agriculture, \$100,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."

Volkova, Victoriya, US Department of Health and Human Services, \$116,934, "Investigating Pharmacodynamics of Antimicrobials against Bacteria Accumulating Resistance."

Volkova, Victoriya, and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$139,793, "Retail Meat Surveillance in the State of Kansas as a Part of the National Antimicrobial Resistance Monitoring System."

VETERINARY DIAGNOSTIC LABORATORY

Ganta, Chanran K., Beard, Warren L. (Clinical Sciences), and **Prakash, Punit** (Electrical and Computer Engineering), National Science Foundation, \$21,061, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

Ganta, Chanran K., Beard, Warren L. (Clinical Sciences), **Biller, David S.** (Clinical Sciences), and **Prakash, Punit** (Electrical and Computer Engineering), US Department of Health and Human Services, \$26,615, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Henningson, Jamie N., US Department of Agriculture, \$4,125, "NAHLN AMR Testing."

Henningson, Jamie N., US Department of Agriculture, \$2,000, "NAHLN CSF and ASF Testing."

Henningson, Jamie N., US Department of Agriculture, \$4,375, "NAHLN CSF Testing."

Henningson, Jamie N., US Department of Agriculture, \$500, "NAHLN FAD Testing."

Henningson, Jamie N., US Department of Agriculture, \$300, "NAHLN PRV Testing."

Henningson, Jamie N., US Department of Agriculture, \$250, "NAHLN RAD Testing."

Henningson, Jamie N., US Department of Agriculture, \$24,000, "NAHLN Scrapie Testing."

Henningson, Jamie N., and Lubbers, Brian, Zoetis LLC, \$66,875, "Pathogen Investigation, Surveillance and Acquisition Collaboration Agreement."

Lubbers, Brian, Amachawadi, Raghavendra G. (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Lubbers, Brian, and Apley, Michael D. (Clinical Sciences), US Department of Health and Human Services, \$99,000, "Characterization of Antimicrobial Use in Beef Feedlots and Dairies."

Lubbers, Brian, and Volkova, Victoriya (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, "Retail Meat Surveillance in the State of Kansas as a Part of the National Antimicrobial Resistance Monitoring System."

Lubbers, Brian, and Ensley, Steve M. (Anatomy and Physiology), US Department of Health and Human Services, \$22,800, "RSVDL Vet-LRN Veterinary Diagnostic Laboratory Program."

Lubbers, Brian, Ensley, Steve M. (Anatomy and Physiology), and **Magnin, Geraldine C.** (Anatomy and Physiology), US Department of Health and Human Services, \$49,276, "Vet-LIRN Network Capacity -building Project for Kansas State University."

Lubbers, Brian, and Henningson, Jamie N., Zoetis LLC, \$66,875, "Pathogen Investigation, Surveillance and Acquisition Collaboration Agreement."

Marthaler, Douglas, Boehringer Ingelheim, \$35,000, "Utilizing Whole Genome Sequencing to Investigate PRRS Introductions and Evolution in a Sow System."

Marthaler, Douglas, Merck Animal Health, \$152,500, "Generation of Contemporary Rotavirus A Isolates and in Silico Identification of Rotavirus Antigenic Epitopes to Support in vitro and in vivo Research for Subunit Vaccine Development."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$160,684, "Analysis of Serum Anti-Rabies Purchase Order 4800017197."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$71,561, "KSU SAM Rabies 2017.07-2018. Purchase Order 4800018902."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$28,000, "Non-GLP Immunological Assays_ Preclinical, Preclinical Evidence Generation and Bioassays (PEGB)."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$48,869, "SAM-Rabies CNE Mouse Study #3 - (0164-18) In vivo Testing of CNE with Varying DOTAP Levels in Balb/C Mice."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$3,726, "Serology on Serum Samples Collected on an Exploratory Toxicity Study in Rats - Alny Lipid Comparison (CRO Study Number 2327-14315)."

Moore, Susan M., CureVac GmbH, \$199,557, "A Research Study Quantifying Anti-Rabies Neutralizing Antibody by the Validated RFFIT Assay Per SOPs KSVDL-RAB-RFFIT-1-16 and RSVDLRAB-RFFIT-2-16 (or current versions) in (human) Serum Following Immunization with mRNA Vaccines."

Moore, Susan M., CureVac GmbH, \$61,236, "A Research Study Quantifying Anti-rabies Neutralizing Antibody by the Validated RFFIT Assay per SOP KSVDL-RAB-REFIT-1-16 and RSVDL-RABRFFIT-2-16 (or current versions) in (monkey and mice) Serum following Immunization with mRNA Vaccines."

Moore, Susan M., US Department of Agriculture, \$10,650, "Contract for Rabies testing 12619719P0017."

Moore, Susan M., US Department of Agriculture, \$11,000, "Sponsorship of Rabies in the Americas (RITA) Conference."

Schneider, Sarah M., Eshar, David (Clinical Sciences), **Herrin, Brian** (Diagnostic Medicine/Pathobiology), and **Schwartz, Diana**, National Center for Veterinary Parasitology, \$2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Schwartz, Diana, Eshar, David (Clinical Sciences), **Herrin, Brian** (Diagnostic Medicine/Pathobiology), and **Schneider, Sarah M.**, National Center for Veterinary Parasitology, \$2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

VETERINARY HEALTH CENTER

Hetrick, Merry Caitlin, and **Harkin, Kenneth R.** (Clinical Sciences), MYOS RENS Technology Inc, \$10,250, "Evaluation of Fortetropin on Quality of Life and Activity in Geriatric Dogs."

White, Dana A., Biller, David S. (Clinical Sciences), **Harkin, Kenneth R.** (Clinical Sciences), and **Roush, James K.** (Clinical Sciences), MYOS RENS Technology Inc, \$3,888, "Evaluation of Fortetropin to Reverse Disuse Muscle Atrophy in Dogs after Tibial Plateau Leveling Osteotomy for Cranial Cruciate Ligament Rupture."

KANSAS COOPERATIVE EXTENSION SERVICE

AGRICULTURE AND NATURAL RESOURCES

Baldwin (Blocksome), Carolyn E., US Environmental Protection Agency, \$10,000, "Kansas Flint Hills Smoke Management Plan."

Hadley, Gregg L., and **Rice, Trudy M.**, Hansen Foundation, Dane G, \$175,000, "Leading Locally - Working Together for Lasting Solutions."

Hadley, Gregg L., US Department of Agriculture, \$256,800, "Kansas Agricultural Mediation Service."

Rice, Trudy M., and **Hadley, Gregg L.**, Hansen Foundation, Dane G, "Leading Locally - Working Together for Lasting Solutions."

Sigle, Nadine J., and **Hadley, Gregg L.** (Director of Cooperative Extension), Hansen Foundation, Dane G, \$194,250, "2019 Community Intern Program."

COUNTY AGENTS - METROPOLITAN SECTOR

Buller, Thomas J., Kennelly, Megan (Plant Pathology), **Nwadike, Londa S.** (Director of Cooperative Extension), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Department of Agriculture, \$7,232, "Growing the Vegetable Producers Community with a Specialty Crop Growers Association."

Chladny, Bruce A., Johannes, Elaine M. (School of Family Studies and Human Services), **Paul, Gregory** (Communication Studies), and **Williams, L. Susan** (Sociology, Anthropology, and Social Work), US Department of Justice, \$83,489, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

DIRECTOR OF COOPERATIVE EXTENSION

Hadley, Gregg L., and **Sigle, Nadine J.** (Agriculture and Natural Resources), Hansen Foundation, Dane G, "2019 Community Intern Program."

Hadley, Gregg L., and **Ebert, Kerri L.** (Horticulture and Natural Resources), University of Minnesota, \$65,000, "Kansas SARE 2019-2020 PDP Plan of Work."

Nwadike, Londa S., Gragg, Sara E. (Animal Sciences and Industry), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$44,857, "Capacity Building and Development for Food Safety in Bangladesh: Creative Approaches to Train-the-Trainer Programs for Hazard Analysis Critical Control Points (HACCP)."

Nwadike, Londa S., Gragg, Sara E. (Animal Sciences and Industry), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Department of Agriculture, \$6,300, "Continued Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement."

Nwadike, Londa S., Buller, Thomas J. (County Agents - Metropolitan Sector), **Kennelly, Megan** (Plant Pathology), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Department of Agriculture, \$7,232, "Growing the Vegetable Producers Community with a Specialty Crop Growers Association."

Peters, Paula, and Minton, J. Ernest (Dean of Agriculture and Director of AES), University of Missouri, \$68,374, "Memorandum of Agreement."

Peters, Paula, and Procter, Sandra B. (Extension Family and Consumer Sciences), US Department of Agriculture, \$501,577, "Kansas Food Assistance Nutrition Education Plan."

EXTENSION FAMILY AND CONSUMER SCIENCES

Procter, Sandra B., and Peters, Paula (Director of Cooperative Extension), US Department of Agriculture, \$2,006,308, "Kansas Food Assistance Nutrition Education Plan."

FOUR-H YOUTH DEVELOPMENT

Potter, Shane A., and Ratliff, Dona S., National 4-H Council, \$7,140, "2019 Kansas 4-H Commodity Carnival."

Ratliff, Dona S., and Potter, Shane A., National 4-H Council, \$4,760, "2019 Kansas 4-H Commodity Carnival."

KANSAS FOREST SERVICE

Atchison, Robert L., US Department of Agriculture, \$93,880, "High Resolution Land Cover and Wind Break Assessment Products of Kansas."

Atchison, Robert L., US Department of Agriculture, \$540,664 (includes \$36,000 from NRCS In-Kind Contribution), "NRCS Technical Service Provider."

Biles, Larry E., US Department of Agriculture, \$3,749,822 (includes \$1,422,143 from Third Party), "Consolidated Payment Grant 2018."

Biles, Larry E., US Department of Agriculture, \$50,000, "Identifying New Market Opportunities and Enhanced Carbon Sequestration through Wood-based Economic Resilience and Forest Management Practices."

Biles, Larry E., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Keane, Timothy D.** (Landscape Architecture/Regional and Community Planning), **Moorberg, Colby** (Agronomy), **Moore, Trisha L.** (Biological and Agricultural Engineering), and **Sheshukov, Aleksey Y.** (Biological and Agricultural Engineering), US Department of the Interior, \$2,366 (includes \$2,366 from In-Kind), "Kansas Water Resources Research Institute 2016."

NORTHEAST AREA OFFICE

Duncan, Stewart R., and Ciampitti, Ignacio (Agronomy), Kansas Soybean Commission, \$5,974, "2019 K-State Soybean Production Schools for Kansas."

Duncan, Stewart R., Ciampitti, Ignacio (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), and **Sweeney, Daniel W.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$4,333, "Assessment of Soil Potassium Bioavailability and Improving Diagnostics Tools for K Management on Soybean in Kansas."

Duncan, Stewart R., Ciampitti, Ignacio (Agronomy), **Jardine, Douglas J.** (Plant Pathology), **Knapp, Mary C.** (Agronomy), **McCornack, Brian P.** (Entomology), **O'Brien, Daniel M.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Soybean Commission, \$1,375, "Improving Soybean Yields by Enhancing Seed Filling."

Duncan, Stewart R., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), **Upham, Ward S.** (Horticulture and Natural Resources), and **Zukoff, Sarah N.** (Southwest Area Office), US Department of Agriculture, \$13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Mack, Diane D., National 4-H Council, \$20,000, "Kansas 4-H Ag Innovators Experience 2019."

NORTHWEST AREA OFFICE

Falk Jones, Jeanne S., Kumar, Vipan (Agricultural Research Center-Hays), **O'Brien, Daniel M.**, and **Stahlman, Phillip W.** (Agricultural Research Center-Hays), National Sunflower Association, \$1,300, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

Haag, Lucas A., Support Funds, \$8,138, "XNW Support Funds Public Service Off Campus 26."

Haag, Lucas A., Ruiz Diaz Suarez, Dorivar A. (Agronomy), **Schlegel, Alan J.** (Southwest Research Extension Center), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$14,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

Haag, Lucas A., Ruiz Diaz Suarez, Dorivar A. (Agronomy), **Schlegel, Alan J.** (Southwest Research Extension Center), **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$3,500, "Impact of Great Plains Production System on Sustainable Production of Grain Sorghum Cooperating with Lubbock, Texas."

Haag, Lucas A., Ciampitti, Ignacio (Agronomy), **Esser, Andrew R.** (Agronomy), **Holman, Johnathon D.** (Southwest Research Extension Center), **Obour, Augustine K.** (Agricultural Research Center-Hays), **Roozeboom, Kraig L.** (Agronomy), and **Stewart, Zachary P.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$25,751, "Sustainable Field Pea Cropping Systems for the Great Plains."

Haag, Lucas A., US Department of Agriculture, \$74,866, "Taking the Next Steps in Pulse Crop Development for Kansas."

Johnson, Sandra K., Holman, Johnathon D. (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Kumar, Vipan** (Agricultural Research Center-Hays), **Obour, Augustine K.** (Agricultural Research Center-Hays), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$29,973, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Johnson, Sandra K., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M., Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of

Agriculture, \$6,325, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

O'Brien, Daniel M., Ciampitti, Ignacio (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), **Jardine, Douglas J.** (Plant Pathology), **Knapp, Mary C.** (Agronomy), **McCornack, Brian P.** (Entomology), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Soybean Commission, \$4,125, "Improving Soybean Yields by Enhancing Seed Filling."

O'Brien, Daniel M., Falk Jones, Jeanne S., Kumar, Vipin (Agricultural Research Center-Hays), and **Stahlman, Phillip W.** (Agricultural Research Center-Hays), National Sunflower Association, \$1,300, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

O'Brien, Daniel M., Llewelyn, Richard V. (Agricultural Economics), **Reid, Roberta M.** (Agricultural Economics), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$29,122, "Utilizing RMA Insurance Products to Enhance Farm-level Risk Management Strategies for Kansas Producers."

O'Brien, Daniel M., Aguilar, Jonathan P. (Southwest Area Office), **Aiken, Robert M.** (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K., Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$3,162, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

SOUTHWEST AREA OFFICE

Aguilar, Jonathan P., Bremer, Dale J. (Horticulture and Natural Resources), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Fry, Jack D.** (Horticulture and Natural Resources), **Golden, Bill B.** (Agricultural Economics), **Hoyle, Jared** (Horticulture and Natural Resources), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lavis, Catherine C.** (Horticulture and Natural Resources), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), Foundation for Food and Agriculture Research, \$13,500, "Irrigation Innovation Consortium."

Aguilar, Jonathan P., Kansas Corn Commission, \$15,000, "Towards Better Understanding of Irrigation Management in Water technology Farms."

Aguilar, Jonathan P., Kansas Water Office, \$10,000, "Design and Monitoring of Water Technology Farms."

Aguilar, Jonathan P., Derby, Melanie M. (Mechanical and Nuclear Engineering), **Hansen, Ryan R.** (Chemical Engineering), **Hendricks, Nathan P.** (Agricultural Economics), **Hock, Gaea** (Communications and Agricultural Education), **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), **Parameswaran, Prathap** (Civil Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), National Science Foundation, \$389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Aguilar, Jonathan P., Aiken, Robert M. (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.**, US

Department of Agriculture, \$63,245, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Vandever, Monte L., Holman, Johnathon D. (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kumar, Vipan** (Agricultural Research Center-Hays), and **Obour, Augustine K.** (Agricultural Research Center-Hays), US Department of Agriculture, \$19,982, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Vandever, Monte L., Llewelyn, Richard V. (Agricultural Economics), **O'Brien, Daniel M.** (Northwest Area Office), and **Reid, Roberta M.** (Agricultural Economics), US Department of Agriculture, \$24,269, "Utilizing RMA Insurance Products to Enhance Farm-level Risk Management Strategies for Kansas Producers."

Vandever, Monte L., Aguilar, Jonathan P., Aiken, Robert M. (Northwest Research Extension Center), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrcs & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Holman, Johnathon D.** (Southwest Research Extension Center), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.** (Civil Engineering), **Lamm, Freddie R.** (Northwest Research Extension Center), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), US Department of Agriculture, \$3,162, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Zukoff, Sarah N., Boyer, Cheryl R. (Horticulture and Natural Resources), **Cloyd, Raymond A.** (Entomology), **DeWolf, Erick D.** (Plant Pathology), **Duncan, Stewart R.** (Northeast Area Office), **Hoyle, Jared** (Horticulture and Natural Resources), **Johnson, Wendy A.** (Entomology), **Kennelly, Megan** (Plant Pathology), **McCornack, Brian P.** (Entomology), **Miller, Frannie L.** (Entomology), **Peterson, Dallas E.** (Agronomy), **Rivard, Cary L.** (Horticulture and Natural Resources), **Stiffler, Brooke** (Entomology), and **Upham, Ward S.** (Horticulture and Natural Resources), US Department of Agriculture, \$5,534, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

K-STATE OLATHE CAMPUS

K-STATE OLATHE INNOVATION CAMPUS

Loyacono, Laura L., Higgins, Meaghan C. (Vice President for Student Life and Dean of Students), and **Lehning, Emily M.** (New Student Services), Kauffman Foundation, "Kansas State College Advising Corps."

K-STATE POLYTECHNIC CAMPUS

K-STATE POLYTECHNIC CAMPUS

Barnhart, Richard K., Kansas Department of Transportation, \$720,000, "Kansas Airport Improvement Program: Phase I (West Apron Project)."

Barnhart, Richard K., Powers & Zahr Consortium Management Co LLC, \$27,000, "B-52 Commercial Engine Replacement Program (CERP) Integration Study - Phase 1."

SALINARESEARCH AND ENGAGEMENT

Balthazor, Travis R., , Bruner, Timothy S., Carraway, Kurt J., Maresch, Nathan D., Papworth, Duke A., and Witt, Trevor D., Kansas Department of Transportation, \$30,580, "KDOT IPP Administrative Task Order 1."

Barnhart, Richard K., National Science Foundation, \$105,101, "BD SPOKES: SPOKE: MIDWEST: Digital Agriculture - Unmanned Aircraft Systems, Plant Science, and Education."

Bruner, Timothy S., , Balthazor, Travis R., Carraway, Kurt J., Maresch, Nathan D., Papworth, Duke A., and Witt, Trevor D., Kansas Department of Transportation, \$13,900, "KDOT IPP Administrative Task Order 1."

Carraway, Kurt J., Black & Veatch Corporation, \$10,048, "Aerial Data Collection."

Carraway, Kurt J., Innovative Seed Solutions, LLC, \$3,114, "Innovative Seed Solutions Task Order."

Carraway, Kurt J., Kansas Department of Transportation, \$4,715, "Iris DAA Flight - IPP TO 2.4."

Carraway, Kurt J., Kansas Department of Transportation, \$4,099, "KDOT Administrative Training - Task Order 2.2."

Carraway, Kurt J., , Balthazor, Travis R., Bruner, Timothy S., Maresch, Nathan D., Papworth, Duke A., and Witt, Trevor D., Kansas Department of Transportation, \$33,360, "KDOT IPP Administrative Task Order 1."

Carraway, Kurt J., Kansas Department of Transportation, \$294, "KDOT IPP C2 Analysis Task Order #3."

Carraway, Kurt J., Kansas Department of Transportation, \$3,717, "KDOT IPP TO 2.6."

Carraway, Kurt J., Kansas Department of Transportation, \$1,539, "KDOT IPP TO2.5."

Carraway, Kurt J., Kansas Department of Transportation, \$6,351, "Vertical Inspection - TO2.1."

Carraway, Kurt J., US Department of Justice, \$91,416, "Evaluation of Terrestrial and Aerial Remote Sensing with Small Unmanned Aircraft Systems (sUAS) for Forensic Crime-scene Reconstruction."

Carraway, Kurt J., US Department of Transportation, \$25,000, "A18 Small UAS Detect and Avoid Requirements Necessary for Limited Beyond Visual Line of Sight (BVLOS) Operations: Separation Requirements and Testing."

Carraway, Kurt J., US Department of Transportation, \$2,546, "Task Order Number 1 - UAS COE IDIQ."

Lawrence, Johnselvakumar, Kemin Industries, \$4,400, "Testing and Evaluation Services Agreement."

Maresch, Nathan D., , Balthazor, Travis R., Bruner, Timothy S., Carraway, Kurt J., Papworth, Duke A., and Witt, Trevor D., Kansas Department of Transportation, \$30,580, "KDOT IPP Administrative Task Order 1."

Papworth, Duke A., , Balthazor, Travis R., Bruner, Timothy S., Carraway, Kurt J., Maresch, Nathan D., and Witt, Trevor D., Kansas Department of Transportation, \$13,900, "KDOT IPP Administrative Task Order 1."

Witt, Trevor D., , Balthazor, Travis R., Bruner, Timothy S., Carraway, Kurt J., Maresch, Nathan D., and Papworth, Duke A., Kansas Department of Transportation, \$77,840, "KDOT IPP Administrative Task Order 1."

SALINASCHOOL OF INTEGRATED STUDIES

Stephens, Gregory F., National Issues Forums Institute, \$1,000, "TALK Salina - Coming to America: Who Should We Welcome?: What Should We Do?."

OFFICE OF THE PRESIDENT

BEACH ART MUSEUM

Duke, Linda A., Albin, Nathan (Mathematics), **Alvarez Santos, Eduardo** (Agronomy), **Bello, Nora M.** (Statistics), **Flippo, Daniel** (Biological and Agricultural Engineering), **Fritz, Allan K.** (Agronomy), **Hettiarachchi, Ganga M.** (Agronomy), **Kulesza, Stacey E.** (Civil Engineering), **Poland, Jesse A.** (Plant Pathology), **SV, Krishna Jagadish** (Agronomy), and **Welch, Stephen M.** (Agronomy), National Science Foundation, \$60,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

OFFICE OF THE PRESIDENT

Myers, Richard B., State of Kansas, \$5,000,000, "National Bio and Agro-Defense Facility."

VICE PRESIDENT FOR COMMUNICATIONS AND MARKETING

Nelson, Robert F., Country Stampede LLC, \$22,500, "Video Production Services."

OFFICE OF THE PROVOST

DEAN OF GLOBAL CAMPUS

Wolfe, Jeffrey J., Kansas Department of Commerce, \$40,000, "Executive Education by Kansas State University."

DEAN OF GRADUATE SCHOOL

Polson, Cheryl J., US Department of Defense, \$237,931, "Brigade Spouse Courses at Fort Leavenworth 2015-2020."

Shanklin, Carol W., National Science Foundation, \$362,333, "NSF Graduate Research Fellowship Program (GRFP) - 2017-2022."

Shanklin, Carol W., Roberts, Kevin R. (Hospitality Management), and **Sauer, Kevin L.** (Food, Nutrition, Dietetics and Health), US Department of Agriculture, \$64,637, "Center for Food Safety in Child Nutrition Programs."

Shanklin, Carol W., Montelone, Beth A. (Research Vice President), and **Mosier, Derek A.** (Diagnostic Medicine/Pathobiology), US Department of Agriculture, \$165,460, "NBAF Scientist Training Program."

INTERNATIONAL PROGRAMS

Chapman, Grant M., US Agency for International Development, \$25,742, "Peace Corps Recruiter."

Wood, Mary, CAPES, \$165,837, "Six-Week English Language Certificate Program for High School English Teachers from Brazil (PDPI)."

Wood, Mary, Jilin University, \$39,240, "Teacher Professional Development Workshop."

Wood, Mary, US Department of State, \$135,125, "Fulbright English for Graduate Studies."

OFFICE OF THE PROVOST

King, Brenee, and **Montelone, Beth A.** (Office of Research Development), National Science Foundation, \$2,059, "Recruitment of Underrepresented Minorities into STEM with a Summer Research Immersion Experience."

Taber, Charles, Kansas State University Foundation, \$24,000, "Spainhour Faculty Chair for KAWSE."

Taber, Charles, Choma, Kimathi I. (Dean of Arts and Sciences), **Grauer, Bette** (Dean of Engineering), **Montelone, Beth A.** (Office of Research Development), and **Wiley, Zelia Z.** (Dean of Agriculture and Director of AES), National Science Foundation, \$157,526, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

SCHOOL OF LEADERSHIP STUDIES

Finnegan, James M., and **Tolar, Mary H.**, City of Manhattan, KS, \$15,000, "City of Manhattan Leadership Academy."

Gott, Trisha C., and **Kliewer, Brandon W.**, US Department of State, \$120,000, "Mandela Washington Fellowship for Young African Leaders - 2019."

Kliwer, Brandon W., Besenyi, Gina M. (Kinesiology), and **Heinrich, Katie M.** (Kinesiology), Engagement Scholarship Consortium, \$2,080, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Kliwer, Brandon W., and **Gott, Trisha C.,** US Department of State, \$80,000, "Mandela Washington Fellowship for Young African Leaders - 2019."

Steffensmeier, Timothy R., and **Tolar, Mary H.,** Kansas Leadership Center, \$122,612, "Kansas Leadership Center Research Initiative."

Tolar, Mary H., and **Finnegan, James M.,** City of Manhattan, KS, \$5,000, "City of Manhattan Leadership Academy."

Tolar, Mary H., and **Steffensmeier, Timothy R.,** Kansas Leadership Center, \$13,624, "Kansas Leadership Center Research Initiative."

VICE PROVOST FOR UNDERGRADUATE STUDIES

Cortez, Anita R., Buckwalter, John (Dean of Human Ecology), and **Rosenkranz, Sara** (Food, Nutrition, Dietetics and Health), US Department of Health and Human Services, \$26,668, "Kansas Bridges to the Future."

VICE PRESIDENT FOR ADMINISTRATION AND FINANCE

VICE PRESIDENT FOR ADMINISTRATION AND FINANCE

Barrett, Sarah F., Kansas Health Foundation, \$24,897, "The Other Hidden Faces of Hunger on College Campuses."

VICE PRESIDENT FOR RESEARCH

BIOSECURITY RESEARCH INSTITUTE

Higgs, Stephen, Huang, Yan-Jang S. (Diagnostic Medicine/Pathobiology), and **Vanlandingham, Dana L.** (Diagnostic Medicine/Pathobiology), BioNexus KC, \$2,500, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

NATIONAL AGRICULTURAL BIOSECURITY CENTER

Vanier, Martha A., US Department of Homeland Security, \$400,000, "NABC Project under DHS BOA."

OFFICE OF RESEARCH DEVELOPMENT

Marino, Mary Lou, and **Montelone, Beth A.,** National Aeronautics and Space Administration, \$42,985, "National Space Grant College and Fellowship Program (SPACE Grant) Training Grant 2015-2018."

Montelone, Beth A., and **Marino, Mary Lou,** National Aeronautics and Space Administration, \$42,985, "National Space Grant College and Fellowship Program (SPACE Grant) Training Grant 2015-2018."

Montelone, Beth A., Choma, Kimathi I. (Dean of Arts and Sciences), **Grauer, Bette** (Dean of Engineering), **Taber, Charles** (Office of the Provost), and **Wiley, Zelia Z.** (Dean of Agriculture and Director of AES), National Science Foundation, \$90,015, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

Montelone, Beth A., and **King, Brenee** (Office of the Provost), National Science Foundation, \$2,059, "Recruitment of Underrepresented Minorities into STEM with a Summer Research Immersion Experience."

RESEARCH VICE PRESIDENT

Dorhout, Peter K., State of Kansas, \$970,000, "Global Foods System."

Dorhout, Peter K., and Jackson, Chad A. (Dean of Business Administration), US Department of Commerce, \$655,697, "Global Food Systems Economic Prosperity Accelerator."

Montelone, Beth A., Mosier, Derek A. (Diagnostic Medicine/Pathobiology), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$165,460, "NBAF Scientist Training Program."

VICE PRESIDENT BIOTECH LABORATORY

Marlow, Denver D., US Department of Agriculture, \$6,001, "Acquisition of Goods and Services."

VICE PRESIDENT ELECTRONICS DESIGN LABORATORY

Sobering, Timothy J., and McNeil, Walter J. (Mechanical and Nuclear Engineering), US Department of Energy, \$45,000, "Electronics Additive Manufacturing PDRD."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS

DIVERSITY & MULTICULTURAL

Chavez, Mirta, US Department of Health and Human Services, \$237,979, "Project IMPACT Leadership Program - 2017 - 2020."

EDUCATIONAL AND PERSONAL DEVELOPMENT

Bannister, Stephanie, Kansas State University Foundation, \$14,333, "First Generation Office - Koch Scholars Fund."

Bannister, Stephanie, Kansas State University Foundation, \$125,485, "First Generation Office - Suder Foundation."

Booker, Monshonda, Kansas State Department of Education, \$2,393, "Summer Food Service Program-UB-Salina-2018."

Booker, Monshonda, National Science Foundation, \$3,500, "Teaching Through Technology (T3) Alliance."

Booker, Monshonda, US Department of Agriculture, \$2,051, "Summer Food Service ProgramUB-Salina-2017."

Booker, Monshonda, US Department of Education, \$602,692, "Kansas State University - Salina Upward Bound."

Greene, Kathleen V., US Department of Education, \$271,193, "Ronald E. McNair Post-Baccalaureate Achievement Program 2017 - 2022."

Greene, Kathleen V., US Department of Education, \$244,504, "Student Support Services K-State-Salina."

Greene, Kathleen V., US Department of Education, \$317,612, "Student Support Services KSU-Manhattan."

KSU CHILD DEVELOPMENT CENTER, INC.

Mitchell, Rose M., City of Manhattan, KS, \$44,132, "Social Services Advisory Board - 2019."

Mitchell, Rose M., US Department of Agriculture, \$500, "Spring 2017 Kansas Local Food and Gardening Sub-Grant."

Mitchell, Rose M., US Department of Education, \$134,538, "Child Care Access Means Parents at K-State 2017 - 2021."

NEW STUDENT SERVICES

Lehning, Emily M., Kansas State University Foundation, \$21,000, "Blue Key Strengths Quest Initiative."

Lehning, Emily M., Higgins, Meaghan C. (Vice President for Student Life and Dean of Students), and **Loyacono, Laura L.** (K-State Olathe Innovation Campus), Kauffman Foundation, \$17,500, "Kansas State College Advising Corps."

Lehning, Emily M., and **Higgins, Meaghan C.** (Vice President for Student Life and Dean of Students), National College Advising Corps, \$38,681, "KSU College Advising Corps in Kansas City."

OFFICE OF STUDENT LIFE

Kientz, Clara H., US Department of Health and Human Services, \$7,000, "Heartland Sexual Assault Policies & Prevention on Campuses Project."

Kientz, Clara H., US Department of Justice, \$280,791, "FY19 VOCA Application for Kansas State University."

STUDENT FINANCIAL ASSISTANCE

Moeder, Lawrence E., Give Something Back Foundation, \$1,848, "Give Something Back Foundation Scholarship Program."

STUDENT HEALTH

DeDonder, Jean M., and **Parker, James S.**, City of Manhattan, KS, \$12,000, "Special Alcohol Funding - 2019."

Parker, James S., and **DeDonder, Jean M.**, City of Manhattan, KS, \$3,000, "Special Alcohol Funding - 2019."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS

Bosco, Pat J., Kauffman Scholars, Inc., \$8,990, "IEP Kauffman Scholars Program - ISP."

DeGroat, Arthur S., Kansas State University Foundation, \$19,300, "David Woods Kemper Veterans Foundation."

DeGroat, Arthur S., Kansas State University Foundation, \$15,708, "Kansas Masons Partnership in Military and Veterans Affairs."

DeGroat, Arthur S., Kansas State University Foundation, \$49,764, "Military Affairs Director Funds."

Higgins, Meaghan C., Lehning, Emily M. (New Student Services), and **Loyacono, Laura L.** (K-State Olathe Innovation Campus), Kauffman Foundation, \$157,500, "Kansas State College Advising Corps."

Higgins, Meaghan C., and **Lehning, Emily M.** (New Student Services), National College Advising Corps, \$348,125, "KSU College Advising Corps in Kansas City."

Weixelman, Mindy R., Kansas State University Foundation, \$20,525, "Phillips 66 SHIELD Scholars Program Administration Fund."