



Research Awards

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

July 1, 2017–June 30, 2018



September 4, 2018

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, 2017–June 30, 2018. 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 <https://www.k-state.edu/research/our-research/reports/>

Total extramural funding at Kansas State University has increased 25 percent in the past three fiscal years. In fiscal year (FY) 2018, K-State faculty members obtained 1,567 awards — a record number and a five percent increase over the previous year — for a total of \$161,576,562. In the past three fiscal years, the number of extramural awards has increased 17.29 percent.

Our portfolio of awards has also grown more diverse. From FY 2017 to FY 2018, awards from the National Science Foundation increased by \$6.8 million, or nearly 59 percent. Awards from the Department of Health and Human Services, which includes the National Institutes of Health, increased by \$5.2 million, or 34 percent, during the same period.

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 master research agreements. Examples from this year include General Mills, Deere and Company, Compass Minerals, Topcon Agriculture, Indigo Ag, Purina Animal Nutrition, Seaboard Foods, Sensient Technologies, and Schlumberger. These agreements indicate strategic, enduring alliances that have helped us build a nimble approach to project engagement. K-State added 291 new industry-funded projects this fiscal year.

If you have any questions regarding the contents of the attached report, please contact Paul Lowe at plowe@ksu.edu or 2-6804 or Cecelia Scaler at cscaler@k-state.edu or 2-6804.

Thank you for your continued support and hard work.

Sincerely,



Peter Dorhout, Ph.D.
Vice President for Research

FY18 ANNUAL REPORT
RESEARCH/SCHOLARLY ACTIVITY FUNDING BASE
KANSAS STATE UNIVERSITY

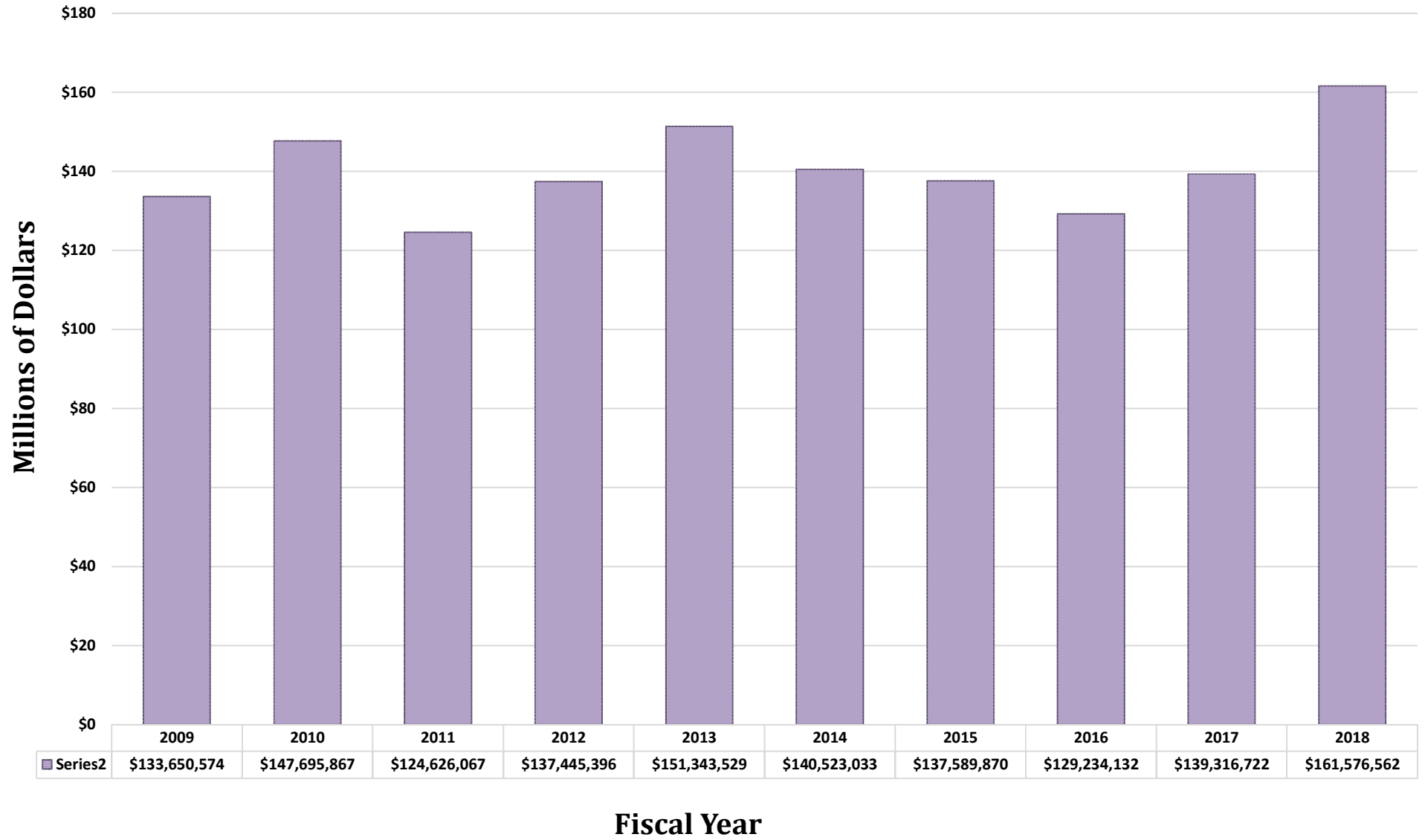
The research funding base at Kansas State University consists of funds appropriated from federal and state sources, gifts from alumni and friends, and awards of extramural funds from federal and state agencies, foundations, and various private and industrial organizations, mainly through the competitive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

| | | |
|--|--------------|---------------|
| I. Sponsored | | \$161,576,562 |
| II. Appropriated | | |
| Main Campus State Appropriation | \$33,864,191 | |
| Experiment Station Programs and Extension Services | | |
| Federal Appropriation* | \$10,356,339 | |
| State Appropriation | \$46,093,050 | |
| Veterinary Medical Center State Appropriation | \$0 | |
| College of Technology and Aviation | \$606,783 | |
| State Appropriation | | |
| SUBTOTAL | | \$90,920,363 |
| III. Donated** | | \$64,070,569 |
| RESEARCH/SCHOLARLY ACTIVITY BASE GRAND TOTAL | | \$316,567,494 |

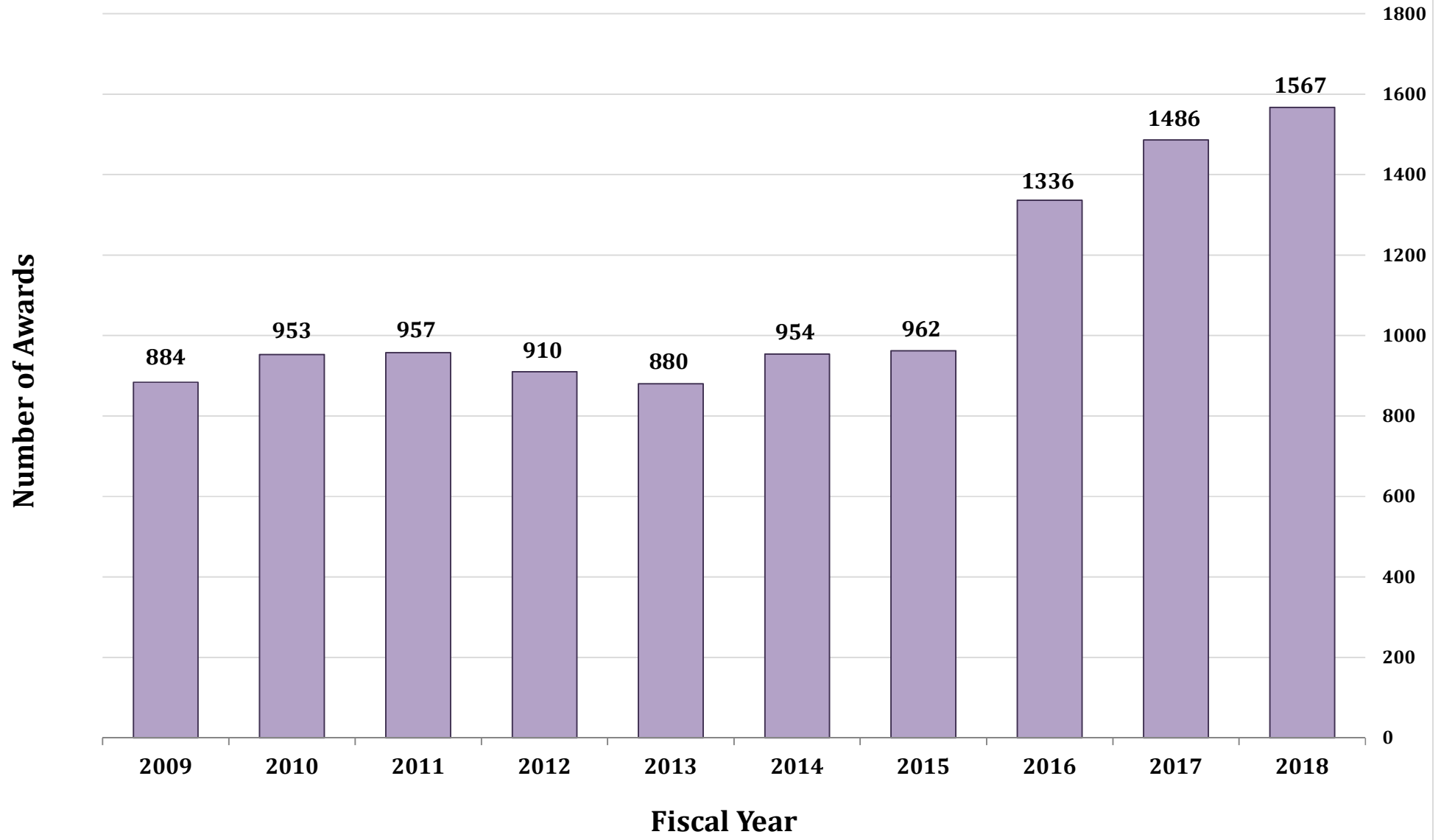
*As of 8/2/18

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

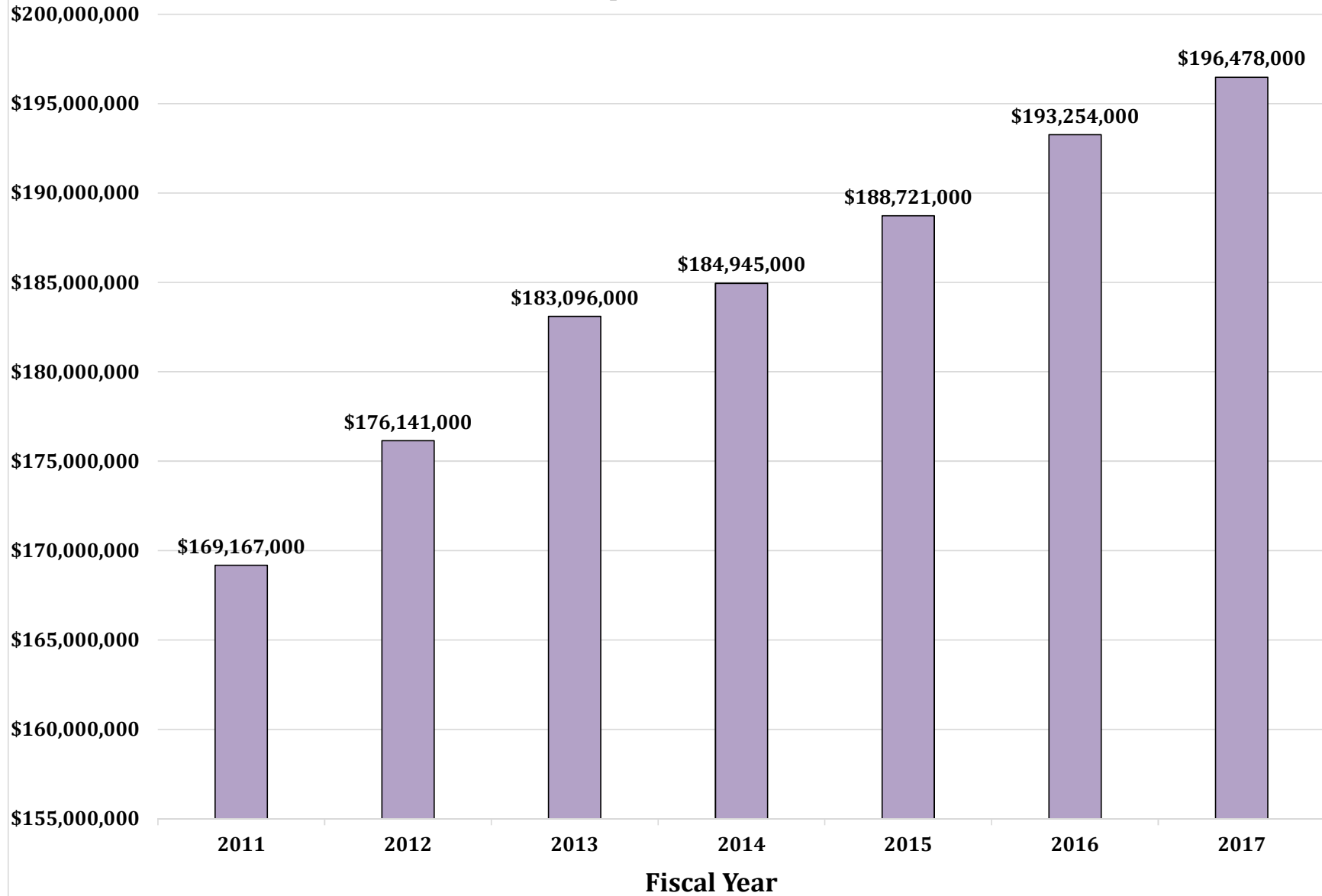
Kansas State University Total Dollars of Extramural Awards Received



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



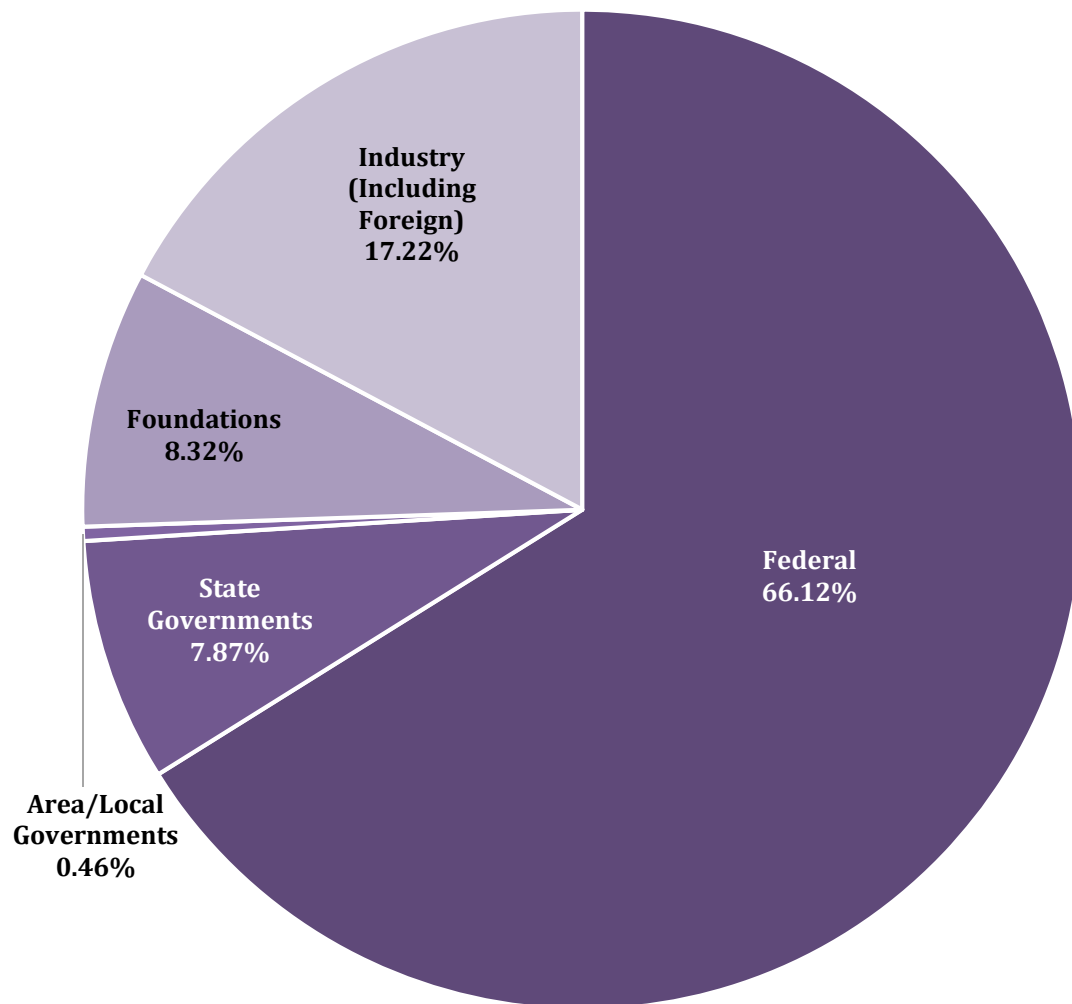
Kansas State University Expenditures



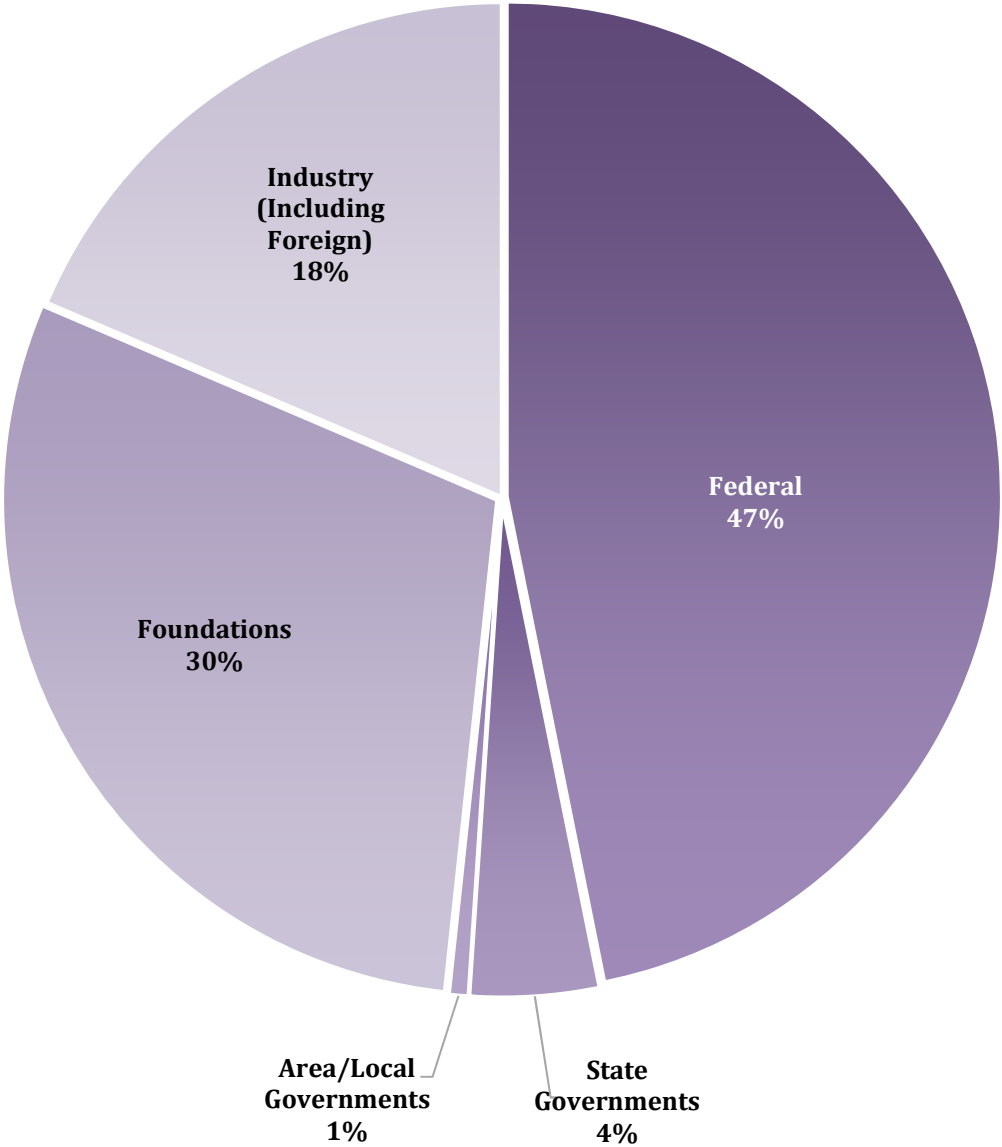
Kansas State University
Sources of Awards
Fiscal Year 2018

| Source | Number of Awards | Dollar Value | Percentage |
|---|------------------------|--------------------|----------------|
| Government: | | | |
| Area/Local Governments | 10 | 745,986 | 0.46% |
| State Governments | 66 | 12,723,568 | 7.87% |
| Federal: | | | |
| Department of Agriculture | 240 | 28,785,895 | 17.82% |
| Department of Defense | 25 | 4,007,192 | 2.48% |
| Department of Education | 33 | 3,104,921 | 1.92% |
| Department of Energy | 47 | 8,225,735 | 5.09% |
| Department of Health and Human Services | 121 | 20,555,690 | 12.72% |
| Department of Homeland Security | 8 | 920,979 | 0.57% |
| Department of the Interior | 23 | 3,633,683 | 2.25% |
| Department of Transportation | 8 | 940,491 | 0.58% |
| Environmental Protection Agency | 18 | 2,239,294 | 1.39% |
| National Aeronautics and Space Administration | 11 | 1,015,291 | 0.63% |
| National Science Foundation | 133 | 18,560,273 | 11.49% |
| US Agency for International Development | 31 | 12,852,287 | 7.95% |
| Other Federal | 36 | 1,991,091 | 1.23% |
| Private: | | | |
| Foundations | 466 | 13,448,914 | 8.32% |
| Industry (Including Foreign) | 291 | 27,825,270 | 17.22% |
| TOTAL | 1567 | 161,576,562 | 100.00% |

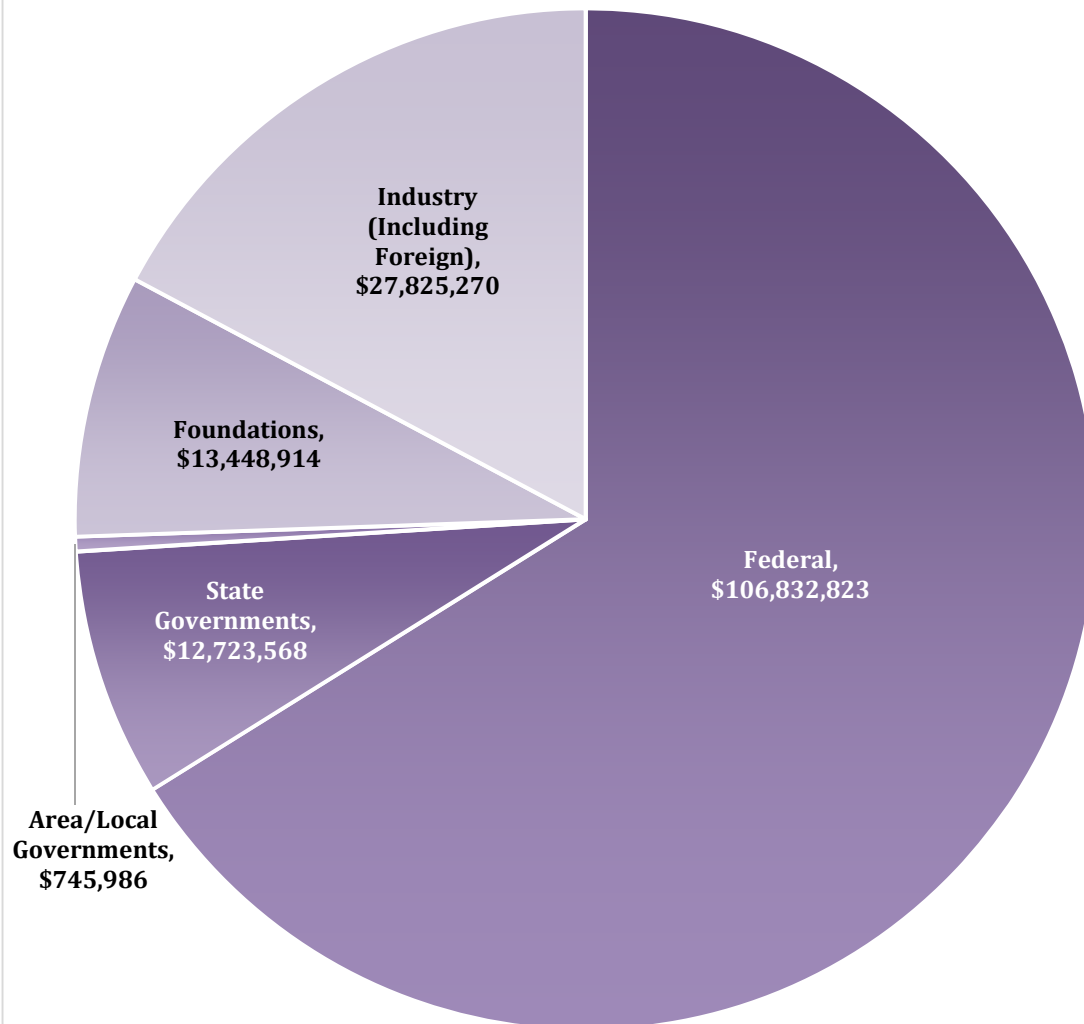
**FY2018 Percentage of Total
Dollar Amount of
Extramural Awards
by Source**



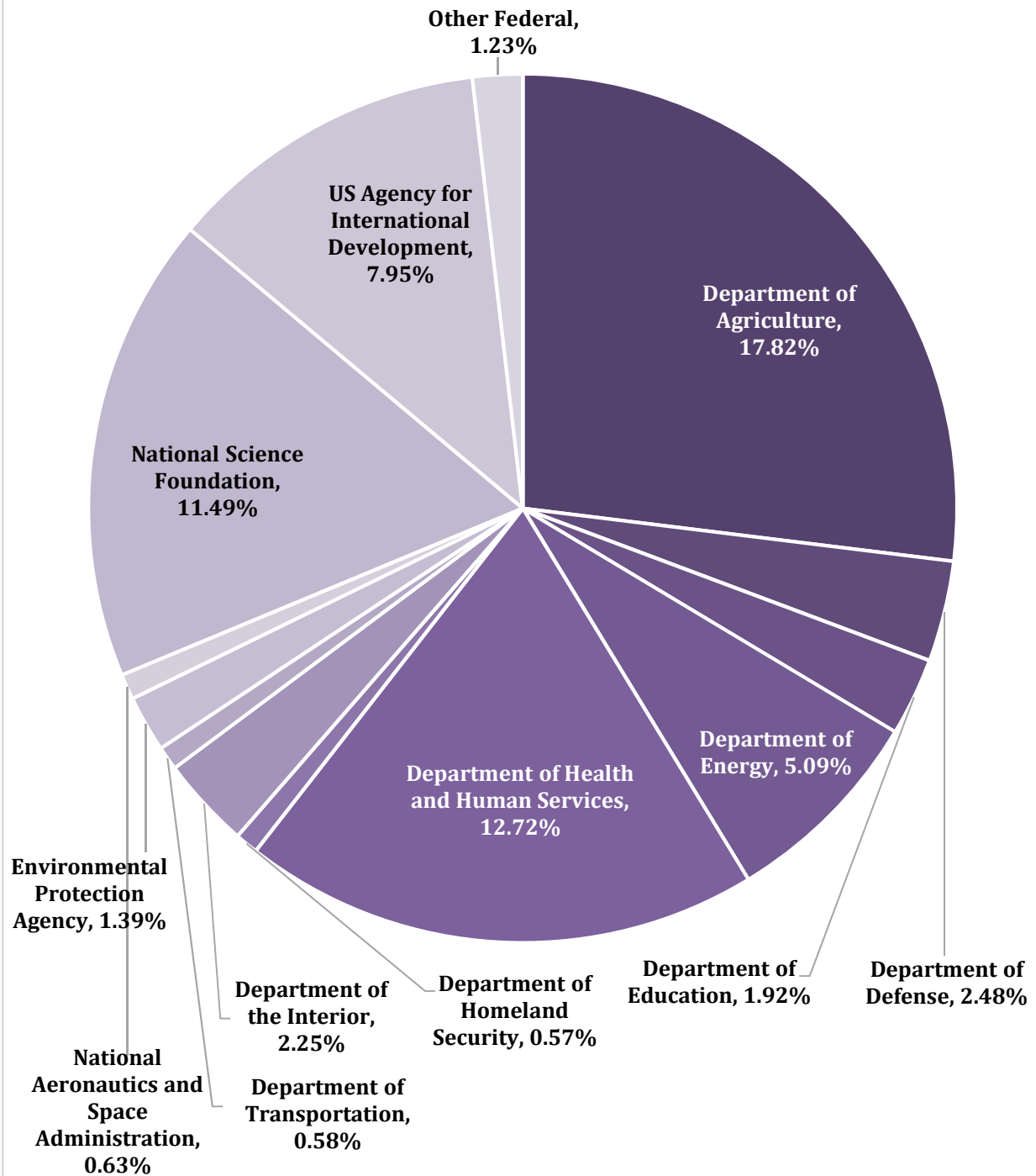
**FY2018 Percentage of Total
Number of
Extramural Awards
by Source**



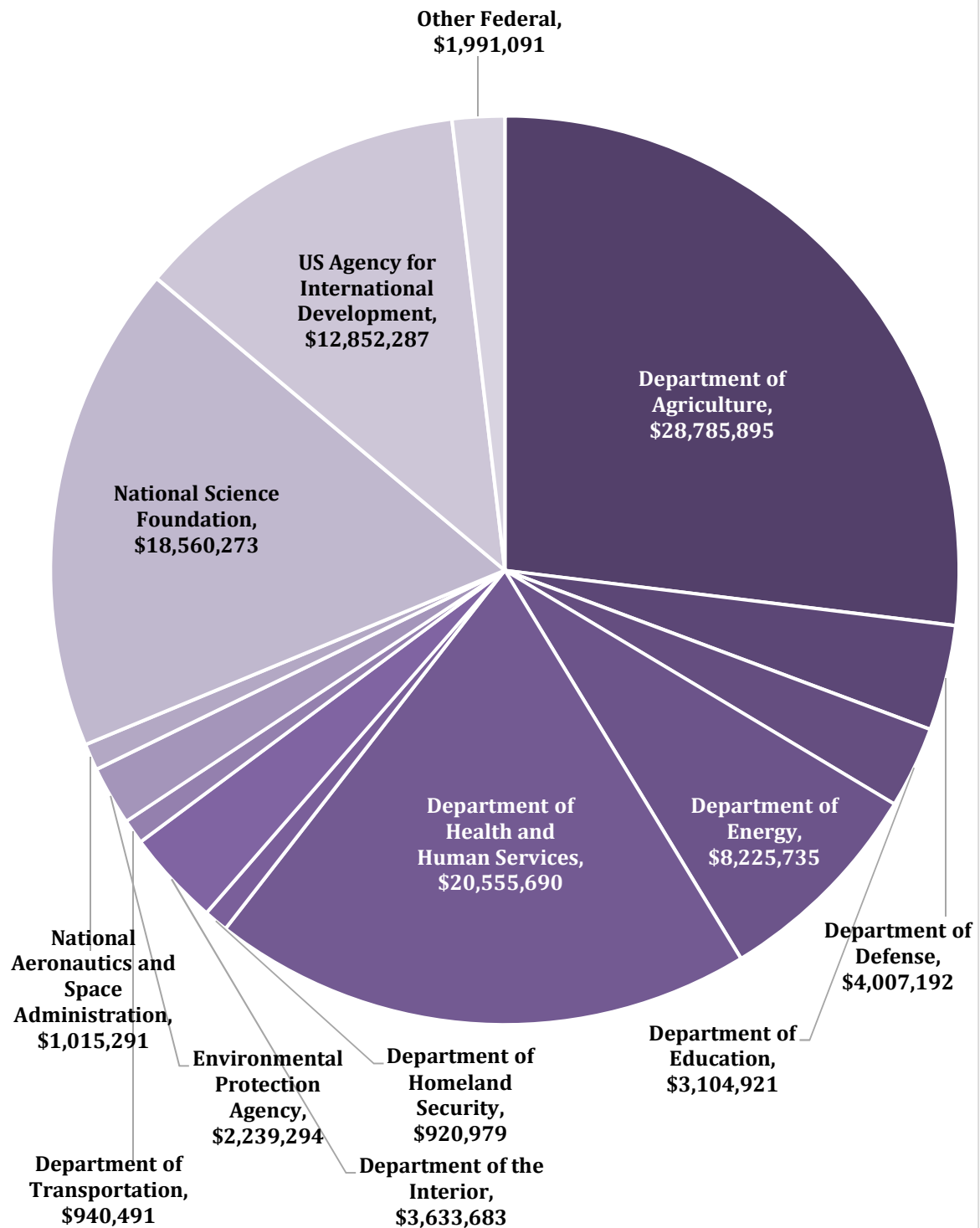
FY2018 Extramural Award Sources by Dollar Amount



FY2018 Extramural Award Federal Sources by Percentage



FY2018 Extramural Award Federal Sources by Dollar Amount



Distribution of New Awards Among
Colleges and Offices of the University
Fiscal Year 2018

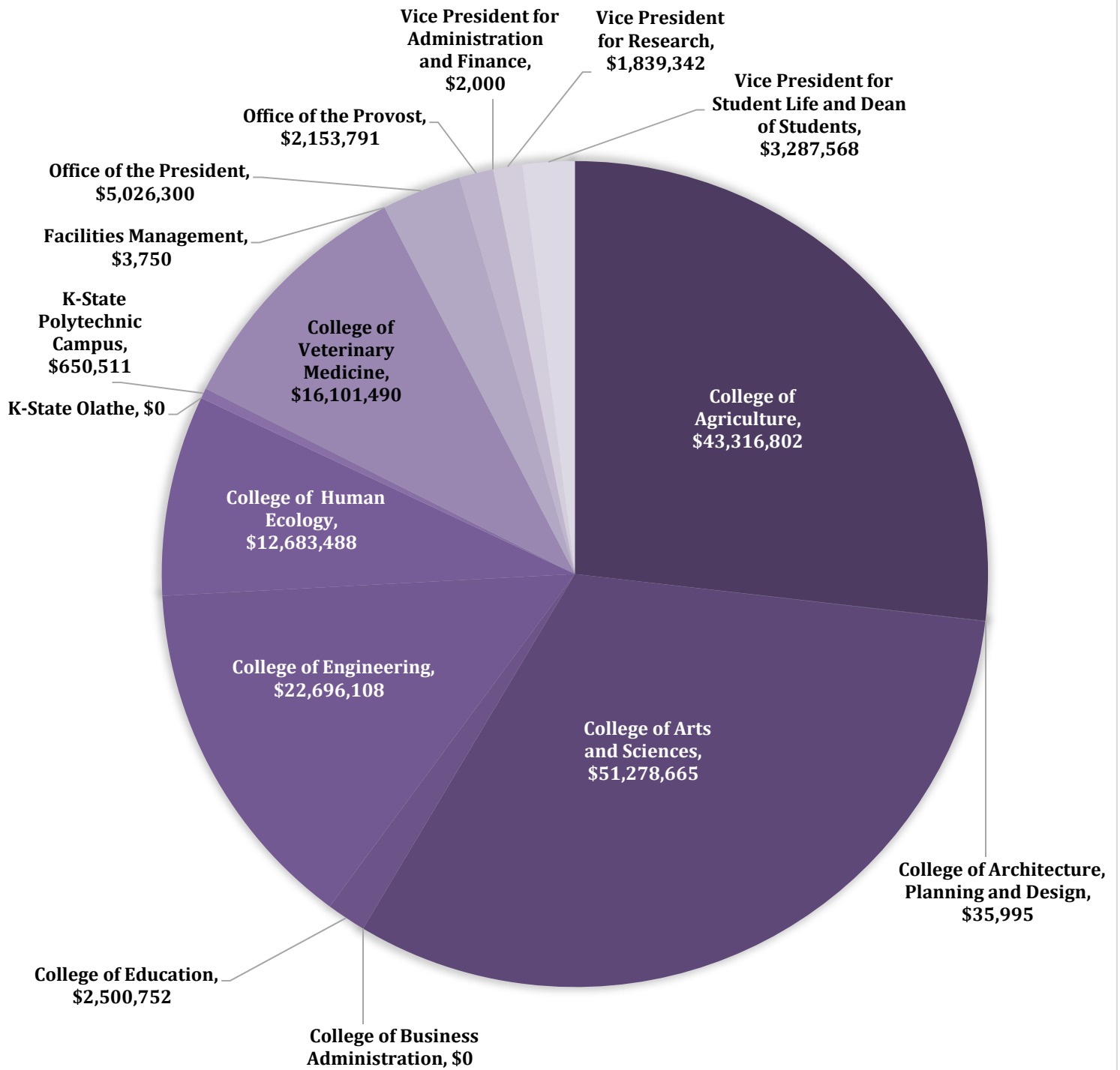
| College/Office | Number of Awards | Dollar Value | Percentage |
|--|------------------------|----------------------|----------------|
| College of Agriculture | 714 | \$43,316,802 * | 26.81% |
| College of Architecture, Planning and Design | 6 | \$35,995 | 0.02% |
| College of Arts and Sciences | 212 | \$51,278,665 | 31.74% |
| College of Business Administration | 0 | \$0 | 0.00% |
| College of Education | 41 | \$2,500,752 | 1.55% |
| College of Engineering | 232 | \$22,696,108 | 14.05% |
| College of Human Ecology | 69 | \$12,683,488 ** | 7.85% |
| K-State Olathe | 0 | \$0 | 0.00% |
| K-State Polytechnic Campus | 9 | \$650,511 | 0.40% |
| College of Veterinary Medicine | 223 | \$16,101,490 | 9.97% |
| Facilities Management | 1 | \$3,750 | 0.00% |
| Office of the President | 3 | \$5,026,300 | 3.11% |
| Office of the Provost | 16 | \$2,153,791 | 1.33% |
| Vice President for Administration and Finance | 1 | \$2,000 | 0.00% |
| Vice President for Research | 11 | \$1,839,342 | 1.14% |
| Vice President for Student Life and Dean of Students | 29 | \$3,287,568 | 2.03% |
| UNIVERSITY TOTAL | 1567 | \$161,576,562 | 100.00% |

*Includes Cooperative Extension Projects in College of Agriculture

**Includes Cooperative Extension Projects in College of Human Ecology

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

FY2018 Extramural Award Dollars By College / Office



**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| Department/College | Proposals | | | Awards | |
|--|----------------|---------------------|----------------------|---------------|---------------------|
| | **** Submitted | *Period | **Total | **** Received | ***Total |
| <u>COLLEGE OF AGRICULTURE</u> | | | | | |
| Agricultural Economics | 63 | \$4,440,046 | \$20,406,362 | 36 | \$3,536,802 |
| Agricultural Experiment Station | 3 | \$105,500 | \$105,500 | 3 | \$105,500 |
| Agricultural Research Center-Hays | 40 | \$963,435 | \$2,658,101 | 30 | \$626,673 |
| Agriculture and Natural Resources | 0 | \$0 | \$0 | 0 | \$0 |
| Agronomy | 217 | \$9,010,024 | \$28,439,845 | 161 | \$7,641,064 |
| Animal Sciences and Industry | 217 | \$4,632,166 | \$10,809,561 | 150 | \$3,317,235 |
| Communication and Ag Education | 3 | \$242,182 | \$804,902 | 2 | \$119,591 |
| Dean of Agriculture and Director of AES | 27 | \$2,008,258 | \$5,248,092 | 21 | \$9,831,654 |
| Entomology | 44 | \$2,229,152 | \$5,155,169 | 36 | \$2,574,329 |
| Food Science Institute | 0 | \$0 | \$0 | 0 | \$0 |
| Grain Science and Industry | 103 | \$2,922,535 | \$6,971,115 | 68 | \$2,238,255 |
| Horticulture and Natural Resources | 64 | \$2,863,943 | \$8,302,956 | 47 | \$2,545,243 |
| 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. | 3 | \$41,850 | \$114,368 | 6 | \$1,027,053 |
| Northwest Research Extension Center | 7 | \$84,165 | \$152,410 | 9 | \$171,284 |
| Office of Academic Programs | 1 | \$15,000 | \$15,000 | 2 | \$316,708 |
| Plant Biotechnology Center | 1 | \$15,393 | \$15,393 | 2 | \$73,393 |
| Plant Pathology | 83 | \$4,099,121 | \$12,072,614 | 64 | \$5,160,337 |
| Southeast Agricultural Research Center | 7 | \$52,919 | \$115,427 | 7 | \$96,679 |
| Southwest Research Extension Center | 15 | \$410,652 | \$907,241 | 11 | \$413,988 |
| Total Agriculture | 898 | \$34,136,341 | \$102,294,056 | 655 | \$39,795,788 |
| <u>COLLEGE OF ARCHITECTURE, PLANNING & DESIGN</u> | | | | | |
| Architecture | 0 | \$0 | \$0 | 0 | \$0 |
| 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 | \$564,730 | \$1,651,471 | 6 | \$35,995 |
| Total Architecture, Planning and Design | 14 | \$564,730 | \$1,651,471 | 6 | \$35,995 |
| <u>COLLEGE OF ARTS AND SCIENCES</u> | | | | | |
| American Ethnic Studies | 0 | \$0 | \$0 | 0 | \$0 |
| Art | 1 | \$30,000 | \$30,000 | 0 | \$0 |
| Biochemistry | 44 | \$7,382,624 | \$23,794,591 | 22 | \$1,986,050 |
| Biology | 108 | \$12,986,330 | \$42,179,663 | 55 | \$8,949,158 |
| Chemistry | 65 | \$6,905,571 | \$24,739,946 | 40 | \$5,444,338 |
| Communication Studies | 2 | \$376,061 | \$1,141,159 | 1 | \$25,740 |
| Dean of Arts and Sciences | 2 | \$170,000 | \$530,000 | 1 | \$80,000 |
| Economics | 2 | \$3,771 | \$3,771 | 0 | \$0 |
| English | 11 | \$420,274 | \$712,588 | 0 | \$0 |
| Geography | 13 | \$1,211,292 | \$2,945,223 | 6 | \$425,977 |
| Geology | 11 | \$18,758,823 | \$19,827,313 | 4 | \$18,366,918 |
| History | 3 | \$16,575 | \$45,201 | 5 | \$164,540 |
| Mathematics | 41 | \$2,346,684 | \$8,470,189 | 19 | \$691,763 |
| Modern Languages | 0 | \$0 | \$0 | 0 | \$0 |
| Philosophy | 5 | \$225,772 | \$503,123 | 1 | \$37,694 |
| Physics | 50 | \$5,477,465 | \$20,036,053 | 34 | \$10,083,461 |
| Political Science | 3 | \$173,144 | \$403,972 | 2 | \$120,644 |

**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| Department/College | Proposals | | | Awards | |
|--|----------------|---------------------|----------------------|---------------|---------------------|
| | **** Submitted | *Period | **Total | **** Received | ***Total |
| Psychological Sciences | 12 | \$134,357 | \$2,490,881 | 11 | \$4,564,928 |
| School of Journalism and Mass Communications | 4 | \$675,307 | \$1,978,570 | 2 | \$67,963 |
| School of Music, Theatre, and Dance | 1 | \$15,000 | \$15,000 | 2 | \$34,171 |
| Sociology, Anthropology and Social Work | 14 | \$1,044,620 | \$4,154,831 | 4 | \$201,772 |
| Statistics | 11 | \$532,037 | \$1,594,159 | 3 | \$33,548 |
| Gender, Women, and Sexuality Studies | 1 | \$26,092 | \$59,663 | 0 | \$0 |
| Total Arts and Sciences | 404 | \$58,911,799 | \$155,655,896 | 212 | \$51,278,665 |

COLLEGE OF BUSINESS ADMINISTRATION

| | | | | | |
|--------------------------------------|----------|-----------------|-----------------|----------|------------|
| Finance | 0 | \$0 | \$0 | 0 | \$0 |
| Accounting | 2 | \$15,225 | \$15,225 | 0 | \$0 |
| Dean of Business Administration | 0 | \$0 | \$0 | 0 | \$0 |
| Management | 1 | \$5,056 | \$5,056 | 0 | \$0 |
| Marketing | 0 | \$0 | \$0 | 0 | \$0 |
| Total Business Administration | 3 | \$20,281 | \$20,281 | 0 | \$0 |

COLLEGE OF EDUCATION

| | | | | | |
|---|-----------|--------------------|---------------------|-----------|--------------------|
| Curriculum and Instruction | 27 | \$2,824,227 | \$11,552,384 | 15 | \$560,126 |
| Dean of Education | 48 | \$4,377,725 | \$10,707,079 | 20 | \$1,840,947 |
| Educational Leadership | 5 | \$116,288 | \$484,151 | 5 | \$96,279 |
| Elementary Education | 0 | \$0 | \$0 | 0 | \$0 |
| Secondary Education | 0 | \$0 | \$0 | 0 | \$0 |
| Special Education, Counseling and Student Affairs | 8 | \$786,364 | \$2,988,181 | 1 | \$3,400 |
| Total Education | 88 | \$8,104,604 | \$25,731,795 | 41 | \$2,500,752 |

COLLEGE OF ENGINEERING

| | | | | | |
|---|------------|---------------------|----------------------|------------|---------------------|
| Advanced Manufacturing Institute | 6 | \$336,500 | \$342,500 | 9 | \$867,538 |
| Architectural Engineering and Construction Science | 0 | \$0 | \$0 | 1 | \$315,000 |
| Biological and Agricultural Engineering | 74 | \$3,669,144 | \$12,046,874 | 36 | \$2,332,473 |
| Center for Hazardous Substance Research | 1 | \$6,111 | \$6,111 | 7 | \$1,637,394 |
| Chemical Engineering | 32 | \$2,381,921 | \$7,046,371 | 12 | \$1,161,470 |
| Civil Engineering | 66 | \$4,984,808 | \$11,448,011 | 30 | \$1,967,239 |
| Computer Science | 61 | \$7,295,855 | \$16,288,233 | 33 | \$3,803,879 |
| Dean of Engineering | 3 | \$135,000 | \$585,000 | 4 | \$800,000 |
| Electrical and Computer Engineering | 89 | \$7,698,389 | \$22,881,384 | 23 | \$1,924,892 |
| Engineering Experiment Station | 0 | \$0 | \$0 | 1 | \$315,000 |
| Industrial and Manufacturing Systems Engineering | 29 | \$2,213,640 | \$6,334,236 | 8 | \$815,058 |
| Institute for Environmental Research | 3 | \$308,731 | \$699,960 | 3 | \$610,883 |
| Kansas Industrial Extension Service | 22 | \$1,293,754 | \$2,772,835 | 24 | \$1,493,626 |
| Mechanical and Nuclear Engineering | 97 | \$13,443,962 | \$35,394,755 | 39 | \$4,601,656 |
| National Gas Machinery Laboratory | 2 | \$86,526 | \$86,526 | 2 | \$50,000 |
| National Institute for Land Management and Training | 0 | \$0 | \$0 | 0 | \$0 |
| Total Engineering | 485 | \$43,854,341 | \$115,932,796 | 232 | \$22,696,108 |

**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| Department/College | Proposals | | | Awards | |
|--|----------------|---------------------|---------------------|---------------|---------------------|
| | **** Submitted | *Period | **Total | **** Received | ***Total |
| <u>COLLEGE OF HUMAN ECOLOGY</u> | | | | | |
| Apparel, Textiles, and Interior Design | 7 | \$327,015 | \$345,998 | 4 | \$96,592 |
| Dean of Human Ecology | 11 | \$343,929 | \$559,028 | 10 | \$1,380,308 |
| Hospitality Management | 8 | \$164,967 | \$745,198 | 6 | \$282,909 |
| Food, Nutrition, Dietetics and Health | 31 | \$1,029,572 | \$5,095,275 | 17 | \$1,015,422 |
| Kinesiology | 18 | \$1,461,185 | \$4,391,984 | 9 | \$1,315,162 |
| School of Family Studies and Human Services | 20 | \$2,115,967 | \$4,951,178 | 22 | \$6,594,965 |
| Total Human Ecology | 95 | \$5,442,635 | \$16,088,661 | 68 | \$10,685,358 |
| <u>K-STATE OLATHE</u> | | | | | |
| Innovation Campus | 0 | \$0 | \$0 | 0 | \$0 |
| Total K-State Olathe | 0 | \$0 | \$0 | 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 | 5 | \$1,870,176 | \$1,870,176 | 3 | \$430,240 |
| Education and Outreach | 1 | \$10,670 | \$10,670 | 1 | \$11,250 |
| Engineering Technology | 0 | \$0 | \$0 | 0 | \$0 |
| Enrollment Management and Marketing Services | 1 | \$29,553 | \$29,553 | 0 | \$0 |
| Fiscal Affairs | 0 | \$0 | \$0 | 0 | \$0 |
| Flight Operations | 1 | \$11,856 | \$11,856 | 1 | \$12,500 |
| Information Systems | 7 | \$347,779 | \$791,848 | 1 | \$166,468 |
| Research and Engagement | 11 | \$1,644,639 | \$2,956,802 | 3 | \$30,053 |
| School of Integrated Studies | 3 | \$125,970 | \$348,352 | 0 | \$0 |
| Undergraduate Services | 1 | \$48,955 | \$118,374 | 0 | \$0 |
| Total Technology and Aviation | 30 | \$4,089,598 | \$6,137,631 | 9 | \$650,511 |
| <u>COLLEGE OF VETERINARY MEDICINE</u> | | | | | |
| Anatomy and Physiology | 84 | \$8,000,167 | \$30,516,581 | 38 | \$2,086,533 |
| Clinical Sciences | 46 | \$2,341,736 | \$3,563,406 | 23 | \$652,856 |
| Dean of Veterinary Medical Center | 20 | \$896,613 | \$1,425,012 | 12 | \$1,059,849 |
| Diagnostic Medicine/Pathobiology | 210 | \$17,645,543 | \$45,499,722 | 121 | \$11,364,229 |
| Veterinary Diagnostic Laboratory | 61 | \$2,328,019 | \$2,791,302 | 27 | \$926,877 |
| Veterinary Health Center | 2 | \$11,146 | \$11,146 | 2 | \$11,146 |
| Total Veterinary Medical Center | 423 | \$31,223,224 | \$83,807,169 | 223 | \$16,101,490 |
| <u>FACILITIES MANAGEMENT</u> | | | | | |
| Facilities Refuse and Recycling | 1 | \$3,750 | \$3,750 | 1 | \$3,750 |
| Total Facilities Management | 1 | \$3,750 | \$3,750 | 1 | \$3,750 |

**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| Department/College | Proposals | | | Awards | |
|---|----------------|--------------------|--------------------|---------------|--------------------|
| | **** Submitted | *Period | **Total | **** Received | ***Total |
| <u>COOPERATIVE EXTENSION</u> | | | | | |
| Cooperative Extension - Agriculture | | | | | |
| Agricultural Economics | 0 | \$0 | \$0 | 0 | \$0 |
| Agriculture and Natural Resources | 2 | \$24,640 | \$730,637 | 2 | \$375,773 |
| 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 | 1 | \$7,232 | \$7,232 | 1 | \$1,600 |
| County Agents-Northeast Sector | 0 | \$0 | \$0 | 1 | \$6,250 |
| County Agents-Northwest Sector | 0 | \$0 | \$0 | 0 | \$0 |
| Director of Cooperative Extension | 7 | \$100,269 | \$391,734 | 6 | \$862,193 |
| Four-H Youth Development | 3 | \$104,945 | \$104,945 | 3 | \$104,945 |
| Kansas Forest Service | 5 | \$1,096,368 | \$1,115,062 | 7 | \$1,450,129 |
| KS Ctr for Agri & the Env./KS Water Resource Res. Inst. | 0 | \$0 | \$0 | 0 | \$0 |
| Northeast Area Office | 4 | \$19,248 | \$62,250 | 4 | \$20,745 |
| Northeast/Metro Area Office | 0 | \$0 | \$0 | 0 | \$0 |
| Northwest Area Office | 18 | \$220,660 | \$293,458 | 12 | \$73,654 |
| Southeast Area Office | 9 | \$65,699 | \$203,162 | 9 | \$58,083 |
| Southwest Area Office | 17 | \$696,187 | \$3,358,226 | 14 | \$567,640 |
| Subtotal Cooperative Ext - Agriculture | 66 | \$2,335,248 | \$6,266,706 | 59 | \$3,521,013 |
| Cooperative Extension - Human Ecology | | | | | |
| Family and Consumer Sciences | 1 | \$108,750 | \$434,999 | 1 | \$1,998,130 |
| Human Nutrition | 0 | \$0 | \$0 | 0 | \$0 |
| Nutrition Program | 0 | \$0 | \$0 | 0 | \$0 |
| Subtotal Cooperative Ext - Human Ecology | 1 | \$108,750 | \$434,999 | 1 | \$1,998,130 |
| Total Cooperative Extension | 67 | \$2,443,998 | \$6,701,705 | 60 | \$5,519,143 |
| <u>OFFICE OF THE PRESIDENT</u> | | | | | |
| Auditorium Performances | 1 | \$15,000 | \$15,000 | 0 | \$0 |
| Beach Art Museum | 2 | \$55,610 | \$115,892 | 0 | \$0 |
| Intercollegiate Athletics - Local | 1 | \$3,300 | \$3,300 | 1 | \$3,300 |
| Intercollegiate Athletics - State | 0 | \$0 | \$0 | 0 | \$0 |
| Vice President for Communications and Marketing | 1 | \$500 | \$500 | 1 | \$23,000 |
| Office of the President | 1 | \$5,000,000 | \$5,000,000 | 1 | \$5,000,000 |
| Total Office of the President | 6 | \$5,074,410 | \$5,134,692 | 3 | \$5,026,300 |

**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| 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 | 4 | \$360,894 | \$922,994 | 3 | \$920,044 |
| Center for the Advancement of Teaching & Learning | 0 | \$0 | \$0 | 0 | \$0 |
| Dean of Global Campus | 0 | \$0 | \$0 | 0 | \$0 |
| Dean of Graduate School | 1 | \$368 | \$368 | 4 | \$722,753 |
| Information Security & Compliance | 0 | \$0 | \$0 | 0 | \$0 |
| Information Technology Assistance Center | 0 | \$0 | \$0 | 0 | \$0 |
| International Programs | 2 | \$272,530 | \$272,530 | 2 | \$156,499 |
| Kansas Center for Rural Initiatives | 0 | \$0 | \$0 | 0 | \$0 |
| Library | 1 | \$15,000 | \$15,000 | 0 | \$0 |
| Office of Diversity and Dual Career Development | 0 | \$0 | \$0 | 0 | \$0 |
| Office of the Provost | 1 | \$210,000 | \$1,050,000 | 2 | \$31,059 |
| School of Leadership Studies | 7 | \$397,654 | \$1,194,459 | 4 | \$296,767 |
| Vice Provost for Undergraduate Studies | 1 | \$26,668 | \$26,668 | 1 | \$26,668 |
| Total Office of the Provost | 17 | \$1,283,114 | \$3,482,019 | 16 | \$2,153,791 |
| <u>VICE PROVOST FOR ACADEMIC SERVICES AND TECHNOLOGY</u> | | | | | |
| Information Technology Assistance Center | 1 | \$115,773 | \$375,000 | 0 | \$0 |
| Total Vice Provost for Academic Services and Technology | 1 | \$115,773 | \$375,000 | 0 | \$0 |
| <u>OFFICE OF THE VICE PRESIDENT FOR ADMINISTRATION AND FINANCE</u> | | | | | |
| Budget Office | 0 | \$0 | \$0 | 0 | \$0 |
| KSU Police Department | 0 | \$0 | \$0 | 1 | \$2,000 |
| Public Safety | 0 | \$0 | \$0 | 0 | \$0 |
| Vice President for Administration and Finance | 0 | \$0 | \$0 | 0 | \$0 |
| Total Administration and Finance | 0 | \$0 | \$0 | 1 | \$2,000 |
| <u>OFFICE OF THE VICE PRESIDENT FOR RESEARCH</u> | | | | | |
| Biosecurity Research Institute | 5 | \$131,168 | \$425,551 | 0 | \$0 |
| Comparative Medicine | 0 | \$0 | \$0 | 0 | \$0 |
| National Agricultural Biosecurity Center | 2 | \$70,000 | \$233,116 | 4 | \$559,585 |
| Office of the Vice President for Research | 1 | \$960,000 | \$960,000 | 1 | \$960,000 |
| Research and Sponsored Programs | 3 | \$162,841 | \$642,841 | 3 | \$44,900 |
| University Research Compliance Office | 0 | \$0 | \$0 | 0 | \$0 |
| Vice President Biotech Laboratory | 1 | \$17,001 | \$17,661 | 2 | \$122,065 |
| Vice President Electronics Design Laboratory | 0 | \$0 | \$0 | 1 | \$152,792 |
| Total Vice President for Research | 12 | \$1,341,010 | \$2,279,169 | 11 | \$1,839,342 |

**FY2018 Cumulative
Proposal/Award Summary
07/01/17 - 06/30/18**

| Department/College | Proposals | | | Awards | |
|---|-------------------|----------------------|----------------------|-------------------|----------------------|
| | **** Submitted | *Period | **Total | **** Received | ***Total |
| OFFICE OF THE VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS | | | | | |
| Department of Housing | 0 | \$0 | \$0 | 0 | \$0 |
| Diversity & Multicultural | 2 | \$7,623 | \$7,623 | 2 | \$7,623 |
| Educational and Personal Development | 2 | \$11,734 | \$11,734 | 6 | \$817,508 |
| KSU Child Development Center, Inc. | 5 | \$94,282 | \$94,282 | 5 | \$313,360 |
| New Student Services | 0 | \$0 | \$0 | 1 | \$20,525 |
| Office of Student Life | 1 | \$307,502 | \$307,502 | 2 | \$260,225 |
| Student Financial Assistance | 1 | \$500,000 | \$500,414 | 1 | \$969,534 |
| Student Health | 0 | \$0 | \$0 | 2 | \$25,000 |
| University Counseling Services | 0 | \$0 | \$0 | 0 | \$0 |
| Vice President for Student Life | 6 | \$346,963 | \$687,800 | 10 | \$873,793 |
| Total Student Life and Dean of Students | 17 | \$1,268,104 | \$1,609,355 | 29 | \$3,287,568 |
| University Totals | **** 2,561 | \$197,877,712 | \$526,905,446 | **** 1,567 | \$161,576,562 |

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

FY2018

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|
| AGRICULTURE | | | | | |
| Dean of Agriculture & Director of AES | \$4,080,119 | \$7,028,301 | \$7,936,931 | \$12,755,031 | \$9,831,654 |
| Agricultural Economics | \$2,701,748 | \$4,499,667 | \$4,987,123 | \$2,895,199 | \$3,536,802 |
| Agronomy | \$9,047,246 | \$4,282,708 | \$7,460,995 | \$7,117,549 | \$7,641,064 |
| Animal Sciences & Industry | \$4,160,941 | \$2,330,114 | \$3,124,814 | \$3,333,192 | \$3,317,235 |
| Communication and Ag Education | \$572,825 | \$273,151 | \$204,843 | \$491,995 | \$119,591 |
| Entomology | \$2,951,497 | \$1,926,270 | \$2,099,381 | \$1,310,348 | \$2,574,329 |
| Food Science Institute | \$351,396 | \$417,494 | \$262,267 | \$2,762 | \$0 |
| Grain Science & Industry | \$4,881,064 | \$2,999,474 | \$4,755,228 | \$3,106,964 | \$2,238,255 |
| Horticulture and Natural Resources | \$1,212,934 | \$528,216 | \$1,153,206 | \$1,557,661 | \$2,545,243 |
| International Agriculture Programs | \$473,742 | \$135,843 | \$2,798 | \$71,185 | \$0 |
| KS Ctr for Agri & the Env/KS Water Res. Res. Inst. | \$1,237,346 | \$2,471,533 | \$3,172,778 | \$2,979,332 | \$1,027,053 |
| Office of Academic Programs | \$223,774 | \$160,203 | \$75,427 | \$103,827 | \$316,708 |
| Plant Biotechnology Center | \$72,000 | \$73,902 | \$62,887 | \$100,694 | \$73,393 |
| Plant Pathology | \$8,563,872 | \$8,040,595 | \$7,442,382 | \$7,904,457 | \$5,160,337 |
| Agricultural Experiment Station | \$10,000 | \$0 | \$2,200,000 | \$400,000 | \$105,500 |
| Northwest Research Extension Center | \$167,220 | \$106,297 | \$98,224 | \$182,942 | \$171,284 |
| Agricultural Research Center-Hays | \$536,961 | \$520,094 | \$905,459 | \$629,261 | \$626,673 |
| Southeast Agricultural Res. Ctr. | \$26,385 | \$0 | \$48,065 | \$30,946 | \$96,679 |
| Southwest Research Extension Ctr. | \$231,245 | \$572,365 | \$664,725 | \$835,659 | \$413,988 |
| Extension Director | \$283,589 | \$273,167 | \$565,629 | \$1,589,079 | \$862,193 |
| Extension Agricultural Economics | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Agronomy | \$21,677 | \$0 | \$10,837 | \$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 | \$0 | \$6,600 | \$1,600 | \$1,600 |
| Extension County Agents - Northeast Sector | \$0 | \$0 | \$0 | \$0 | \$6,250 |
| Extension Entomology | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Four-H Youth Development | \$307,433 | \$109,905 | \$20,000 | \$57,570 | \$104,945 |
| 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 | \$3,442,665 | \$20,287,123 | \$460,444 | \$6,856,782 | \$1,450,129 |
| Extension Kansas Water Resource Res. Inst. | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Northeast Area Office | \$56,784 | \$13,900 | \$16,037 | \$16,347 | \$20,746 |
| Extension Northwest Area Office | \$1,575 | \$39,465 | \$76,424 | \$95,871 | \$73,654 |
| Extension Plant Pathology | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Agriculture and Natural Resources | \$562,308 | \$997,142 | \$469,326 | \$635,550 | \$375,773 |
| Extension South Central Area Office | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Southeast Area Office | \$42,263 | \$33,485 | \$69,067 | \$50,558 | \$58,083 |
| Extension Southwest Area Office | \$64,677 | \$120,868 | \$320,401 | \$200,023 | \$567,640 |
| College Totals | <u>\$46,285,286</u> | <u>\$58,241,282</u> | <u>\$48,672,298</u> | <u>\$55,312,384</u> | <u>\$43,316,802</u> |
| ARCHITECTURE, PLANNING AND DESIGN | | | | | |
| Dean of Architecture, Planning & Design | \$0 | \$0 | \$0 | \$5,480 | \$0 |
| Architecture | \$25,000 | \$28,500 | \$0 | \$0 | \$0 |
| Interior Architecture and Product Design | \$0 | \$0 | \$3,745 | \$0 | \$0 |
| Landscape Arch/Regional & Comm Plan | <u>\$71,571</u> | <u>\$7,210</u> | <u>\$31,976</u> | <u>\$192,061</u> | <u>\$35,995</u> |
| College Totals | <u>\$96,571</u> | <u>\$35,710</u> | <u>\$35,721</u> | <u>\$197,541</u> | <u>\$35,995</u> |

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|---|--------------|--------------|--------------|--------------|--------------|
| ARTS AND SCIENCES | | | | | |
| Dean of Arts & Sciences | \$200,000 | \$150,000 | \$150,000 | \$150,000 | \$80,000 |
| Art | \$0 | \$0 | \$0 | \$15,000 | \$0 |
| Biochemistry | \$2,463,717 | \$2,737,009 | \$2,616,972 | \$2,611,851 | \$1,986,050 |
| Biology | \$8,162,164 | \$11,506,539 | \$6,835,361 | \$14,149,320 | \$8,949,158 |
| Chemistry | \$2,243,577 | \$1,530,901 | \$1,680,835 | \$3,183,343 | \$5,444,338 |
| Communication Studies | \$0 | \$0 | \$65,740 | \$59,000 | \$25,740 |
| Economics | \$0 | \$0 | \$50,000 | \$40,850 | \$0 |
| English | \$0 | \$9,982 | \$0 | \$6,000 | \$0 |
| Geography | \$1,118,409 | \$323,397 | \$302,448 | \$155,190 | \$425,977 |
| Geology | \$229,475 | \$292,622 | \$102,033 | \$4,880 | \$18,366,918 |
| History | \$0 | \$148,000 | \$160,800 | \$205,000 | \$164,540 |
| Kinesiology | \$178,084 | \$0 | \$0 | \$0 | \$0 * |
| Mathematics | \$861,187 | \$383,781 | \$673,452 | \$1,084,184 | \$691,763 |
| Modern Languages | \$6,000 | \$0 | \$0 | \$0 | \$0 |
| Music | \$15,950 | \$17,355 | \$0 | \$0 | \$0 ** |
| Philosophy | \$0 | \$0 | \$0 | \$0 | \$37,694 |
| Physics | \$5,694,471 | \$8,741,477 | \$5,092,355 | \$4,327,675 | \$10,083,461 |
| Political Science | \$4,000 | \$0 | \$0 | \$9,650 | \$120,644 |
| Psychological Sciences | \$934,052 | \$688,600 | \$684,705 | \$361,113 | \$4,564,928 |
| School of Journalism & Mass Communications | \$835,043 | \$152,992 | \$155,435 | \$164,561 | \$67,963 |
| School of Music, Theatre, and Dance | \$0 | \$0 | \$15,950 | \$15,950 | \$34,171 ** |
| Sociology, Anthropology, & Social Work | \$488,048 | \$362,336 | \$442,722 | \$621,102 | \$201,772 |
| Statistics | \$85,842 | \$87,141 | \$5,000 | \$78,838 | \$33,548 |
| Gender, Women, and Sexuality Studies | \$0 | \$0 | \$0 | \$0 | \$0 |
| College Totals | \$23,520,019 | \$27,132,132 | \$19,033,808 | \$27,243,507 | \$51,278,665 |
| BUSINESS ADMINISTRATION | | | | | |
| Dean of Business Administration | \$0 | \$0 | \$0 | \$0 | \$0 |
| Accounting | \$0 | \$0 | \$0 | \$0 | \$0 |
| Marketing | \$10,000 | \$21,780 | \$0 | \$0 | \$0 |
| Management | \$1,000 | \$0 | \$0 | \$47,500 | \$0 |
| College Totals | \$11,000 | \$21,780 | \$0 | \$47,500 | \$0 |
| EDUCATION | | | | | |
| Curriculum and Instruction | \$0 | \$130,268 | \$560,223 | \$882,857 | \$560,126 |
| Dean of Education | \$4,913,616 | \$10,151,287 | \$3,983,009 | \$2,315,089 | \$1,840,947 |
| Educational Leadership | \$19,500 | \$0 | \$20,964 | \$263,700 | \$96,279 |
| Elementary Education | \$0 | \$0 | \$0 | \$0 | \$0 |
| Secondary Education | \$0 | \$0 | \$0 | \$0 | \$0 |
| Special Education, Counseling and Student Affairs | \$27,026 | \$27,020 | \$0 | \$223 | \$3,400 |
| College Totals | \$4,960,142 | \$10,308,575 | \$4,564,196 | \$3,461,869 | \$2,500,752 |
| ENGINEERING | | | | | |
| Dean of Engineering | \$200,378 | \$75,000 | \$1,405,000 | \$75,000 | \$800,000 |
| Advanced Manufacturing Institute | \$1,372,000 | \$1,352,989 | \$454,715 | \$856,750 | \$867,538 |
| Architectural Engg & Construction Sci | \$37,730 | \$0 | \$630,000 | \$0 | \$315,000 |
| Biological & Agricultural Engineering | \$794,204 | \$595,754 | \$1,741,129 | \$1,808,356 | \$2,332,473 |
| Center for Hazardous Substance Research | \$2,274,343 | \$48,000 | \$650,460 | \$1,724,852 | \$1,637,394 |
| Chemical Engineering | \$1,475,765 | \$1,084,436 | \$1,178,431 | \$813,050 | \$1,161,470 |
| Civil Engineering | \$1,193,043 | \$1,630,957 | \$2,674,909 | \$1,040,616 | \$1,967,239 |
| Computer Science | \$2,908,196 | \$1,128,108 | \$2,933,327 | \$2,656,257 | \$3,803,879 |

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|
| Electrical & Computer Engineering | \$1,426,653 | \$1,125,422 | \$2,348,088 | \$1,065,833 | \$1,924,892 |
| Engineering Experiment Station | \$0 | \$0 | \$630,000 | \$0 | \$315,000 |
| Institute for Environmental Research | \$421,049 | \$397,738 | \$486,087 | \$525,072 | \$610,883 |
| Industrial & Manufacturing Sys Engg | \$903,179 | \$261,640 | \$1,582,484 | \$560,033 | \$815,058 |
| Kansas Industrial Extension Service | \$849,510 | \$982,346 | \$1,198,158 | \$1,588,371 | \$1,493,626 |
| Mechanical and Nuclear Engineering | \$2,245,934 | \$3,694,879 | \$5,303,479 | \$4,991,527 | \$4,601,656 |
| National Gas Machinery Laboratory | \$37,730 | \$0 | \$50,146 | \$0 | \$50,000 |
| Nat'l Institute for Land Mgmt & Training | \$0 | \$0 | \$0 | \$0 | \$0 |
| College Totals | <u>\$16,139,714</u> | <u>\$12,377,269</u> | <u>\$23,266,413</u> | <u>\$17,705,717</u> | <u>\$22,696,108</u> |
| <hr/> | | | | | |
| HUMAN ECOLOGY | | | | | |
| Dean of Human Ecology | \$491,557 | \$408,764 | \$746,412 | \$1,536,171 | \$1,380,308 |
| Apparel, Textiles & Interior Design | \$0 | \$51,190 | \$115,702 | \$60,546 | \$96,592 |
| Food, Nutrition, Dietetics and Health | \$1,506,520 | \$1,287,316 | \$3,381,174 | \$2,452,835 | \$1,015,422 |
| Hospitality Management | \$827,642 | \$648,372 | \$865,776 | \$226,236 | \$282,909 |
| Kinesiology | \$124,866 | \$1,423,210 | \$697,233 | \$688,578 | \$1,315,162 * |
| School of Family Studies & Human Services | \$7,537,520 | \$8,292,408 | \$6,700,747 | \$5,556,125 | \$6,594,965 |
| Extension Apparel, Textiles & Interior Design | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Family & Consumer Sciences | \$2,489,822 | \$2,547,558 | \$0 | \$2,006,754 | \$1,998,130 |
| Extension Human Nutrition | \$0 | \$0 | \$0 | \$0 | \$0 |
| Extension Nutrition Program | \$0 | \$0 | \$0 | \$0 | \$0 |
| Ext. Family Studies & Human Services | \$0 | \$0 | \$0 | \$0 | \$0 |
| College Totals | <u>\$12,977,927</u> | <u>\$14,658,818</u> | <u>\$12,507,044</u> | <u>\$12,527,245</u> | <u>\$12,683,488</u> |
| <hr/> | | | | | |
| K-STATE OLATHE | | | | | |
| Innovation Campus | <u>\$0</u> | <u>\$0</u> | <u>\$6,700</u> | <u>\$43,700</u> | <u>\$0</u> |
| College Totals | <u>\$0</u> | <u>\$0</u> | <u>\$6,700</u> | <u>\$43,700</u> | <u>\$0</u> |
| <hr/> | | | | | |
| K-STATE POLYTECHNIC CAMPUS | | | | | |
| Dean of Polytechnic Campus | \$0 | \$0 | \$342,269 | \$0 | \$430,240 |
| Academic Services | \$0 | \$0 | \$0 | \$0 | \$0 |
| College Advancement | \$1,500 | \$0 | \$0 | \$0 | \$0 |
| Applied Aviation Research Center | \$157,993 | \$215,808 | \$554,280 | \$174,821 | \$0 |
| Arts, Science and Business | \$500 | \$68,274 | \$0 | \$0 | \$0 |
| Aviation | \$0 | \$0 | \$0 | \$0 | \$0 |
| Education and Outreach | \$0 | \$0 | \$0 | \$0 | \$11,250 |
| Engineering Technology | \$0 | \$0 | \$0 | \$0 | \$0 |
| Flight Operations | \$0 | \$0 | \$0 | \$0 | \$12,500 |
| Information Systems | \$0 | \$0 | \$0 | \$0 | \$166,468 |
| Research and Engagement | \$0 | \$0 | \$0 | \$0 | \$30,053 |
| College Totals | <u>\$159,993</u> | <u>\$284,082</u> | <u>\$896,549</u> | <u>\$174,821</u> | <u>\$650,511</u> |
| <hr/> | | | | | |
| VETERINARY MEDICINE | | | | | |
| Dean of Veterinary Medicine | \$206,431 | \$996,018 | \$486,947 | \$189,828 | \$1,059,849 |
| Anatomy & Physiology | \$2,997,688 | \$986,331 | \$2,083,780 | \$1,729,199 | \$2,086,533 |
| Clinical Sciences | \$771,662 | \$651,561 | \$339,520 | \$604,061 | \$652,856 |
| Diagnostic Medicine/Pathobiology | \$8,910,119 | \$8,156,890 | \$9,069,125 | \$8,272,443 | \$11,364,229 |
| Veterinary Diagnostic Laboratory | \$50,127 | \$271,401 | \$323,865 | \$750,943 | \$926,877 |
| Veterinary Health Center | \$2,000 | \$16,950 | \$28,034 | \$20,028 | \$11,146 |
| College Totals | <u>\$12,938,027</u> | <u>\$11,079,151</u> | <u>\$12,331,271</u> | <u>\$11,566,502</u> | <u>\$16,101,490</u> |
| <hr/> | | | | | |
| FACILITIES MANAGEMENT | | | | | |
| Facilities Refuse and Recycling | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$3,750</u> |
| Totals | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$0</u> | <u>\$3,750</u> |

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|---|-------------|-------------|-------------|-------------|-------------|
| PRESIDENT | | | | | |
| Beach Art Museum | \$8,872 | \$13,000 | \$0 | \$0 | \$0 |
| McCain Auditorium | \$0 | \$0 | \$0 | \$0 | \$0 |
| Intercollegiate Athletics - Local | \$0 | \$0 | \$0 | \$0 | \$3,300 |
| Intercollegiate Athletics - State | \$0 | \$0 | \$0 | \$433 | \$0 |
| Vice President for Communications and Marketing | \$0 | \$23,000 | \$22,500 | \$22,500 | \$23,000 |
| Office of the President | \$5,000,000 | \$0 | \$0 | \$5,000,000 | \$5,000,000 |
| Totals | \$5,008,872 | \$36,000 | \$22,500 | \$5,022,933 | \$5,026,300 |

| | | | | | |
|--|--------------|-----------|-------------|-------------|-------------|
| PROVOST | | | | | |
| Office of the Provost | \$341,067 | \$162,534 | \$133,380 | \$222,014 | \$31,059 |
| Assessment & Program Review | \$0 | \$0 | \$0 | \$0 | \$0 |
| Center for Engagement, Community Development | \$264,757 | \$33,660 | \$416,123 | \$183,821 | \$920,044 |
| Dean of Global Campus | \$9,987,444 | \$0 | \$0 | \$55,200 | \$0 |
| Dean of the Graduate School | \$320,741 | \$0 | \$584,955 | \$686,726 | \$722,753 |
| Enterprise Server Technologies | \$0 | \$0 | \$0 | \$0 | \$0 |
| Information Security & Compliance | \$139,969 | \$3,200 | \$0 | \$0 | \$0 |
| Information Systems | \$0 | \$0 | \$0 | \$0 | \$0 |
| Information Technology Assistance Center | \$3,850 | \$0 | \$0 | \$0 | \$0 |
| International Programs | \$0 | \$0 | \$48,851 | \$0 | \$156,499 |
| Kansas Center for Rural Initiatives | \$0 | \$0 | \$0 | \$0 | \$0 |
| Library | \$0 | \$0 | \$22,169 | \$13,279 | \$0 |
| Network and Telecommunications Services | \$0 | \$0 | \$0 | \$0 | \$0 |
| Office of Diversity and Dual Career Dev. | \$0 | \$257,299 | \$108,085 | \$424,905 | \$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 | \$61,048 | \$54,080 | \$146,248 | \$158,000 | \$296,767 |
| Vice Provost for Undergraduate Studies | \$0 | \$0 | \$0 | \$87,620 | \$26,668 |
| Totals | \$11,118,876 | \$510,773 | \$1,459,811 | \$1,831,565 | \$2,153,791 |

V. P. ADMINISTRATION AND FINANCE

| | | | | | |
|---|---------|-----|----------|---------|---------|
| Vice President for Administration and Finance | \$0 | \$0 | \$0 | \$0 | \$0 |
| Budget Office | \$0 | \$0 | \$0 | \$0 | \$0 |
| KSU Police Department | \$1,500 | \$0 | \$19,605 | \$9,878 | \$2,000 |
| Public Safety | \$0 | \$0 | \$0 | \$0 | \$0 |
| Physical Facilities | \$0 | \$0 | \$0 | \$0 | \$0 |
| Totals | \$1,500 | \$0 | \$19,605 | \$9,878 | \$2,000 |

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 | \$0 | \$0 | \$0 | \$0 | \$0 |
| Totals | \$0 | \$0 | \$0 | \$0 | \$0 |

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| VICE PRESIDENT FOR RESEARCH | | | | | |
| Vice President for Research | \$237,058 | \$152,333 | \$10,000 | \$1,000,000 | \$960,000 |
| Biosecurity Research Institute | \$5,033,555 | \$499,995 | \$599,562 | \$113,182 | \$0 |
| National Agricultural Biosecurity Center | \$148,134 | \$199,041 | \$3,128,243 | \$473,694 | \$559,585 |
| Research and Sponsored Programs | \$0 | \$0 | \$0 | \$0 | \$44,900 |
| University Research Compliance Office | \$0 | \$0 | \$13,200 | \$16,500 | \$0 |
| Biotechnology Laboratory | \$0 | \$0 | \$141,199 | \$143,937 | \$122,065 |
| Electronics Design Lab | \$616,545 | \$192,706 | \$669,553 | \$320,445 | \$152,792 |
| Totals | \$6,035,292 | \$1,044,075 | \$4,561,757 | \$2,067,758 | \$1,839,342 |
| V.P. FOR STUDENT LIFE AND DEAN OF STUDENTS | | | | | |
| Vice President for Student Life | \$61,000 | \$26,000 | \$54,500 | \$302,590 | \$873,793 |
| Department of Housing | \$1,000 | \$0 | \$0 | \$0 | \$0 |
| Diversity & Multicultural | \$0 | \$0 | \$0 | \$0 | \$7,623 |
| Educational & Personal Development | \$986,068 | \$1,267,874 | \$772,717 | \$1,306,959 | \$817,508 |
| KSU Child Development Center | \$137,806 | \$480,285 | \$862,307 | \$145,339 | \$313,360 |
| New Student Services | \$49,940 | \$51,351 | \$56,351 | \$47,650 | \$20,525 |
| Office of Diversity & Dual Career Dev. | \$0 | \$0 | \$0 | \$0 | \$0 |
| Office of Student Life | \$0 | \$0 | \$70,263 | \$268,438 | \$260,225 |
| Student Financial Assistance | \$0 | \$0 | \$0 | \$0 | \$969,534 |
| Student Health | \$0 | \$0 | \$0 | \$0 | \$25,000 |
| University Counseling Services | \$34,000 | \$34,713 | \$40,321 | \$32,826 | \$0 |
| Totals | \$1,269,814 | \$1,860,223 | \$1,856,459 | \$2,103,802 | \$3,287,568 |
| UNIVERSITY TOTALS | \$140,523,033 | \$137,589,870 | \$129,234,132 | \$139,316,722 | \$161,576,562 |

*Kinesiology moved to Human Ecology in 2013. Only previously awarded grants continue to be listed in Arts and Sciences.

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

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 2018 Cumulative (July 1, 2017 – June 30, 2018)

COLLEGE OF AGRICULTURE

AGRICULTURAL ECONOMICS

Amanor-Boadu, Vincent R., Barkley, Andrew P., Featherstone, Allen M., Lilja, Nina K. (Dean of Agriculture and Director of AES), and **Schwab, Benjamin B.**, US Agency for International Development, \$48,977, "BHEARD Program: Ghana."

Amanor-Boadu, Vincent R., Barkley, Andrew P., Featherstone, Allen M., Lilja, Nina K. (International Agricultural Programs), and **Schwab, Benjamin B.**, US Agency for International Development, \$146,930, "BHEARD Program: Uganda."

Amanor-Boadu, Vincent R., US Agency for International Development, \$72,575, "Legume Scholar: Benin (Pacem Kotchofa)."

Amanor-Boadu, Vincent R., Featherstone, Allen M., and **Ross, Kara**, US Agency for International Development, \$73,214, "Pulse Value Chain Initiative-Zambia (PVCIZ)."

Amanor-Boadu, Vincent R., Featherstone, Allen M., and **Lilja, Nina K.** (International Agricultural Programs), US Agency for International Development, "Strengthening the Capacity of the Department of Agribusiness and Natural Resource Economics (DANRE) in the College of Agricultural and Environmental Sciences (CAES), Makerere University."

Amanor-Boadu, Vincent R., Ross, Kara, Shanoyan, Aleksan, and **Zereyesus, Yacob**, US Department of Agriculture, \$732,122, "METSS Ghana Implementation (Sustaining Growth Through Effective Management and Collaboration)."

Barkley, Andrew P., Amanor-Boadu, Vincent R., Featherstone, Allen M., Lilja, Nina K. (Dean of Agriculture and Director of AES), and **Schwab, Benjamin B.**, US Agency for International Development, \$48,977, "BHEARD Program: Ghana."

Barkley, Andrew P., Amanor-Boadu, Vincent R., Featherstone, Allen M., Lilja, Nina K. (International Agricultural Programs), and **Schwab, Benjamin B.**, US Agency for International Development, \$146,930, "BHEARD Program: Uganda."

Barnaby Jr, Glenn A., Llewelyn, Richard V., Reid, Roberta M., and **Taylor, Mykel R.**, US Department of Agriculture, \$12,495, "Farm Bill Risk Management Education and Decision Tool."

Coffey, Brian, Nwadike, Londa S. (Director of Cooperative Extension), **Pliakoni, Eleni** (Horticulture and Natural Resources), **Trinetta, Valentina** (Animal Sciences and Industry), and **Yucel, Umut** (Animal Sciences and Industry), US Department of Agriculture, \$7,009, "Effective Packing Practices to Control Postharvest Disease in Small Fruit Crops."

Featherstone, Allen M., and **Tsoodle, Leah J.**, Kansas Department of Agriculture, "Memorandum of Agreement."

Featherstone, Allen M., Amanor-Boadu, Vincent R., Barkley, Andrew P., Lilja, Nina K. (Dean of Agriculture and Director of AES), and **Schwab, Benjamin B.**, US Agency for International Development, \$48,977, "BHEARD Program: Ghana."

Featherstone, Allen M., Amanor-Boadu, Vincent R., Barkley, Andrew P., Lilja, Nina K. (International Agricultural Programs), and **Schwab, Benjamin B.**, US Agency for International Development, \$146,930, "BHEARD Program: Uganda."

Featherstone, Allen M., Amanor-Boadu, Vincent R., and Ross, Kara, US Agency for International Development, "Pulse Value Chain Initiative-Zambia (PVCIZ)."

Featherstone, Allen M., Amanor-Boadu, Vincent R., and Lilja, Nina K. (International Agricultural Programs), US Agency for International Development, \$871,737, "Strengthening the Capacity of the Department of Agribusiness and Natural Resource Economics (DANRE) in the College of Agricultural and Environmental Sciences (CAES), Makerere University."

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., Rice, Charles W. (Agronomy), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), US Department of Agriculture, \$131,913, "Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate."

Golden, Bill B., Aguilar, Jonathan P. (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J.** (Southwest Area Office), **Kisekka, Isaya** (Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **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, \$104,697 (includes \$3,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$40,104, "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."

Griffin, Terry W., Adee, Eric A. (Agronomy), **Ciampitti, Ignacio** (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), **Lin, Xiaomao** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$1,496, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Griffin, Terry W., Ciampitti, Ignacio (Agronomy), and **Sharda, Ajay** (Biological and Agricultural Engineering), United Soybean Board, \$24,939, "On-farm Digital Technologies."

Griffin, Terry W., US Department of Agriculture, \$18,036, "Managing Farm Risk Using Big Data."

Hendricks, Nathan P., US Department of Agriculture, \$30,000, "Marginal Cost of Carbon Abatement through Forest Restoration of Agricultural Land in the Mississippi Delta."

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

Llewelyn, Richard V., Barnaby Jr, Glenn A., Reid, Roberta M., and **Taylor, Mykel R.**, US Department of Agriculture, \$12,495, "Farm Bill Risk Management Education and Decision Tool."

Perry, Edward, US Department of Agriculture, \$65,552, "Genetically-engineered Traits, Cross-licensing and Competition in the US Corn and Soybean Seed Industry."

Reid, Roberta M., Barnaby Jr, Glenn A., Llewelyn, Richard V., and **Taylor, Mykel R.**, US Department of Agriculture, \$12,495, "Farm Bill Risk Management Education and Decision Tool."

Ross, Kara, Amanor-Boadu, Vincent R., and **Featherstone, Allen M.**, US Agency for International Development, "Pulse Value Chain Initiative-Zambia (PVCIZ)."

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)."

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, \$27,561, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Schwab, Benjamin B., Amanor-Boadu, Vincent R., Barkley, Andrew P., Featherstone, Allen M., and **Lilja, Nina K.** (Dean of Agriculture and Director of AES), US Agency for International Development, \$48,977, "BHEARD Program: Ghana."

Schwab, Benjamin B., Amanor-Boadu, Vincent R., Barkley, Andrew P., Featherstone, Allen M., and **Lilja, Nina K.** (International Agricultural Programs), US Agency for International Development, \$146,930, "BHEARD Program: Uganda."

Schwab, Benjamin B., and **Shanoyan, Aleksan**, US Department of Agriculture, \$3,701, "Deep Dive Analysis of the Armenia Compact Water-to-Market Evaluation."

Shanoyan, Aleksan, and Schwab, Benjamin B., US Department of Agriculture, \$3,701, "Deep Dive Analysis of the Armenia Compact Water-to-Market Evaluation."

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)."

Taylor, Mykel R., Barnaby Jr, Glenn A., Llewelyn, Richard V., and Reid, Roberta M., US Department of Agriculture, \$12,495, "Farm Bill Risk Management Education and Decision Tool."

Tonsor, Glynn T., US Department of Agriculture, \$232,111, "A Human Behavioral Approach to Reducing the Impact of Livestock Pest or Disease Incursions of Socio-economic Importance."

Tsoodle, Leah J., and Featherstone, Allen M., Kansas Department of Agriculture, \$97,420, "Memorandum of Agreement."

Villoria Siegert, Nelson B., National Science Foundation, \$108,940, "Assessing the Influence of Zero-deforestation Supply Chain Commitments on the Conservation of Ecosystems."

Williams, Jeffery R., Kluitenberg, Gerard J. (Agronomy), **Nelson, Nathan O.** (Agronomy), **Roozeboom, Kraig L.** (Agronomy), and **Tomlinson, Peter J.** (Agronomy), Kansas Corn Commission, \$250, "Cover Crops and Phosphorus Management to Protect Water Quality in Corn-Soybean Rotations."

Yu, Jisang, World Bank, \$10,000, "Drivers of Agricultural Productivity in Bhuan."

Zereyesus, Yacob, and Van Der Merwe, Deon (Diagnostic Medicine/Pathobiology), US Agency for International Development, \$16,120, "Mycotoxin Prevalence and Mitigation Measures in Ethiopia."

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)."

AGRICULTURAL EXPERIMENT STATION

Minton, J. Ernest, Archer Daniels Midland Company, \$50,000, "Center for Sorghum Improvement Program Agreement -Match Funding."

Minton, J. Ernest, US Department of Agriculture, \$55,000, "Acquisition of Goods and Services 58-3020-7-033."

Minton, J. Ernest, Bascom, Nathanael D. (Dean of Agriculture and Director of AES), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$500, "Enhancement of Professional Development in Plant Breeding through "The Sorghum in the 21st Century" Conference."

AGRICULTURAL RESEARCH CENTER-HAYS

Gillen, Robert L., Support Funds, \$8,000, "AHY Support Funds Research 37."

Gillen, Robert L., US Department of Agriculture, \$28,000, "Acquisition of Goods and Services."

Jaeger, John R., Tarpoff, Anthony J. (Animal Sciences and Industry), and **Waggoner, Justin** (Southwest Area Office), Alliance Liquid Feeds, \$4,500, "Effects of Cellarat-Ore C.P.R. Fed during the Receiving Period on Cattle Performance, Morbidity, IBR Vaccine Response and Carcass Characteristics."

Jaeger, John R., 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), **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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$3,342, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Kumar, Vipan, Jugulam, Mithila (Agronomy), **Peterson, Dallas E.** (Agronomy), **Shoup, Douglas E.** (Southeast Area Office), and **Stahlman, Phillip W.**, Kansas Soybean Commission, \$13,000, "Investigation of Herbicide Resistance in Waterhemp and Palmer amaranth in Kansas: Survey, Mechanism, and Management."

Kumar, Vipan, and **Peterson, Dallas E.** (Agronomy), Kansas Soybean Commission, \$16,447, "Non-Xtend Soybean Response to Simulate Dicamba Drift."

Kumar, Vipan, and **Falk Jones, Jeanne S.** (Northwest Area Office), Kansas Sunflower Commission, \$4,000, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

Kumar, Vipan, Monsanto Company, \$7,560, "Service Order No. 54."

Kumar, Vipan, Monsanto Company, \$6,615, "Service Order No. 55."

Kumar, Vipan, Monsanto Company, \$10,500, "Service Order No. 60."

Kumar, Vipan, 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, Vipan, Support Funds, \$50,000, "AHY Support Funds Research 36."

Obour, Augustine K., and **Holman, Johnathon D.** (Southwest Research Extension Center), US Department of Agriculture, \$37,450, "Cover Crops to Increase Water Infiltration in Dryland and Irrigated Systems in Western Kansas."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.**(Southwest Area Office), US Department of Agriculture, \$26,736, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Perumal, Ramasamy, Morris, Geoffrey (Agronomy), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), Kansas Grain Sorghum Commission, \$1,875, "Center for Sorghum Improvement Seminar Series."

Perumal, Ramasamy, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Morris, Geoffrey** (Agronomy), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$69,300, "Development of Sorghum Parental Lines with Enhanced Drought and Cold Tolerance."

Perumal, Ramasamy, Little, Christopher R. (Plant Pathology), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$4,510, "Germplasm Screening, host interactions, and lodging resilience for stalk rot diseases in Kansas."

Perumal, Ramasamy, and **Morris, Geoffrey** (Agronomy), Kansas Grain Sorghum Commission, \$8,230, "Improving Early-season Cold and Drought Tolerance in Grain Sorghum with Genomics and Phenomics."

Perumal, Ramasamy, Morris, Geoffrey (Agronomy), **Pagadala, Venkata** (Dean of Agriculture and Director of AES), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$5,500, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Terminal Heat and Drought Stress Resilience."

Perumal, Ramasamy, US Department of Agriculture, \$30,000, "Development and Characterization of Sorghum with Improved End-Use Quality."

Stahlman, Phillip W., Jugulam, Mithila (Agronomy), **Kumar, Vipin, Peterson, Dallas E.** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$13,000, "Investigation of Herbicide Resistance in Waterhemp and Palmer amaranth in Kansas: Survey, Mechanism, and Management."

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, Kansas Wheat Alliance, Inc., \$50,000, "Breeding Wheat Varieties with Virus and Herbicide Resistance."

Zhang, Guorong, Fritz, Allan K. (Agronomy), and **Lollato, Romulo P.** (Agronomy), Kansas Wheat Alliance, Inc., \$1,993, "Digging through Existing Databases to Improve Variety-Specific Management Recommendations for Wheat in Kansas."

Zhang, Guorong, Fritz, Allan K. (Agronomy), and **Lollato, Romulo P.** (Agronomy), Kansas Wheat Alliance, Inc., \$900, "Keeping up with Breeding: Improved Management Recommendations at Time of Wheat Variety Release."

Zhang, Guorong, Li, Yonghui (Grain Science and Industry), and **Smith, Gordon L.** (Grain Science and Industry), Kansas Wheat Commission, \$3,088, "Determining Phytochemical Profiles of Kansas Wheat Varieties to Facilitate Breeding and Marketing of Health-Beneficial Wheats."

Zhang, Guorong, Kansas Wheat Commission, \$138,000, "Development of New Hard Red and Hard White Winter Wheat Varieties with Improved Levels of Diseases Resistance for Western Kansas."

Zhang, Guorong, DeWolf, Erick D. (Plant Pathology), **Friebe, Bernd** (Plant Pathology), **Fritz, Allan K.** (Agronomy), and **Gill, Bikram S.** (Plant Pathology), Kansas Wheat Commission, \$3,200, "Disease Phenotyping: Determining the Reaction of Wheat Lines to Important Diseases."

Zhang, Guorong, US Department of Agriculture, \$65,528, "Validation, Characterization and Deployment of QTL for Grain Yield Components in Wheat -AG Research Center -Hays."

AGRONOMY

Adee, Eric A., and **Little, Christopher R.** (Plant Pathology), Kansas Soybean Commission, \$5,820, "SDS: Resistance Screening, ILeVO Treatment, Survival on Corn Residue, and Pathogen Variability."

Adee, Eric A., **Ciampitti, Ignacio**, **Duncan, Stewart R.** (Northeast Area Office), **Griffin, Terry W.** (Agricultural Economics), **Lin, Xiaomao**, and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$1,496, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Adee, Eric A., Monsanto Company, \$2,520, "Service Order No. 61."

Adee, Eric A., Support Funds, \$163,040, "AGR Support Funds Experiment Field 26."

Alvarez Santos, Eduardo, **Peterson, Dallas E.**, **Redmond, Christopher A.**, and **Thompson, Curtis R.**, Kansas Soybean Commission, \$10,635, "Improving Meteorological Measurements at Kansas Mesonet Weather Stations to Assist with Herbicide Drift Monitoring."

Alvarez Santos, Eduardo, **Corwin, Kristan L.** (Physics), **Washburn, Brian R.** (Physics), and **Welch, Stephen M.**, National Science Foundation, \$169,243, "MRI: Agro-Combs: Development of A Mid-Infrared Dual-Comb Spectrometer."

Assefa Mulisa, **Yared**, **Ciampitti, Ignacio**, **Johnson, Wendy A.**, and **McCornack, Brian P.** (Entomology), Kansas Corn Commission, \$2,495, "Corn Management Decision Guiding Website and Mobile App."

Bheemanahallirangappa, Raju, Schapaugh Jr, William T., and SV, Krishna Jagadish, Kansas Soybean Commission, \$14,000, "High-throughput Platform to Enhance Quality of Beans and Add Value to Kansas Soybean Breeding Program."

Ciampitti, Ignacio, John Deere World Headquarters, \$34,960, "Canola Yields as Affected by Management, Environment, and Genotype Factors: A Review-Analysis."

Ciampitti, Ignacio, and McCornack, Brian P. (Entomology), Kansas Corn Commission, \$26,913, "Beyond the Summer Science Institute -Using Corn in the Curriculum to Advance Inquiry-based Learning."

Ciampitti, Ignacio, Assefa Mulisa, Yared, Johnson, Wendy A., and McCornack, Brian P. (Entomology), Kansas Corn Commission, \$29,940, "Corn Management Decision Guiding Website and Mobile App."

Ciampitti, Ignacio, Kansas Corn Commission, \$89,989, "Extension and Applied Research Programs for Kansas Corn Production."

Ciampitti, Ignacio, Aguilar, Jonathan P. (Southwest Area Office), **Haag, Lucas A.** (Northwest Area Office), and **Patrignani, Andres**, Kansas Corn Commission, \$3,939, "Improving the Assessment of Soil Moisture Conditions in Irrigated Corn Using COSMOS."

Ciampitti, Ignacio, Rice, Charles W., and Ruiz Diaz Suarez, Dorivar A., Kansas Corn Commission, \$11,366, "Soil Health Partnership: Kansas."

Ciampitti, Ignacio, Ruiz Diaz Suarez, Dorivar A., and Thompson, Curtis R., Kansas Grain Sorghum Commission, \$10,091, "Sorghum Production Schools for Kansas."

Ciampitti, Ignacio, and Duncan, Stewart R. (Northeast Area Office), Kansas Soybean Commission, \$8,963, "2019 K-State Soybean Production Schools for Kansas."

Ciampitti, Ignacio, and Sassenrath, Gretchen F. (Southeast Agricultural Research Center), Kansas Soybean Commission, \$23,935, "Improving Soybean Yield in the Double Crop Soybean System."

Ciampitti, Ignacio, Adee, Eric A., Duncan, Stewart R. (Northeast Area Office), **Griffin, Terry W.** (Agricultural Economics), **Lin, Xiaomao**, and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$22,446, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Ciampitti, Ignacio, North Central Soybean Research Program, \$31,767, "Benchmarking Soybean Production Systems in the North Central USA."

Ciampitti, Ignacio, United Soybean Board, \$399,785, "Effect of Cultural Practices on Soybean Seed Quality: A Review and Research Studies."

Ciampitti, Ignacio, Griffin, Terry W. (Agricultural Economics), and **Sharda, Ajay** (Biological and Agricultural Engineering), United Soybean Board, \$25,695, "On-farm Digital Technologies."

Dille, Johanna A., Hay, Marshall M., Peterson, Dallas E., Roozeboom, Kraig L., and Shoup, Douglas E. (Southeast Area Office), Kansas Soybean Commission, \$3,558, "Control of Pigweed with an Integrated Systems Approach in Soybean."

Dille, Johanna A., US Department of Agriculture, \$73,750, "Integrated Management Techniques to Combat Potential Shifts in Horseweed (Marestail) Emergence."

Dille, Johanna A., Xarvio Digital Farming Solutions, \$15,000, "2018 Weed Image Collection via iCatcher App."

Fritz, Allan K., Lollato, Romulo P., and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Alliance, Inc., \$1,993, "Digging through Existing Databases to Improve Variety-Specific Management Recommendations for Wheat in Kansas."

Fritz, Allan K., Kansas Wheat Alliance, Inc., \$150,000, "Implementation of Advanced Breeding Technologies."

Fritz, Allan K., Kansas Wheat Alliance, Inc., \$174,000, "Implementation of Advanced Breeding Technologies."

Fritz, Allan K., Lollato, Romulo P., and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Alliance, Inc., \$900, "Keeping up with Breeding: Improved Management Recommendations at Time of Wheat Variety Release."

Fritz, Allan K., Fellers, John P. (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Wheat Commission, \$10,000, "Biotech Approaches for Trait Enhancement in Wheat."

Fritz, Allan K., DeWolf, Erick D. (Plant Pathology), **Friebe, Bernd** (Plant Pathology), **Gill, Bikram S.** (Plant Pathology), and **Zhang, Guorong** (Agricultural Research Center-Hays), Kansas Wheat Commission, \$3,200, "Disease Phenotyping: Determining the Reaction of Wheat Lines to Important Diseases."

Fritz, Allan K., Kansas Wheat Commission, \$50,000, "Implementation of Advanced Breeding Technologies."

Fritz, Allan K., Jaenisch, Brent R., Lollato, Romulo P., Nelson, Nathan O., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$8,765, "Improving Wheat Yield and Quality with Balance Sulfur and Nitrogen Management."

Fritz, Allan K., Lollato, Romulo P., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$1,052, "Wheat Nutrient Uptake and Partitioning as Affected by Era of Variety Release and Balanced Nutrition."

Fritz, Allan K., Pioneer Hi-Bred International, Inc., \$31,050, "Hybrid Wheat Seed Production Agreement."

Fritz, Allan K., Pagadala, Venkata (Dean of Agriculture and Director of AES), and **SV, Krishna Jagadish**, US Agency for International Development, \$7,829, "Development of Heat Tolerant, High Yielding and Climate Resilient Wheat Cultivars Utilizing Genomics, Molecular and Physiological Information."

Hay, Marshall M., Dille, Johanna A., Peterson, Dallas E., Roozeboom, Kraig L., and Shoup, Douglas E. (Southeast Area Office), Kansas Soybean Commission, \$24,905, "Control of Pigweed with an Integrated Systems Approach in Soybean."

Hettiarachchi, Ganga M., Bio Huma Netics, Inc., \$15,750, "Altering Phosphorus Fertilizer Reaction Pathways in P-Fixing Soils."

Hettiarachchi, Ganga M., Davis, Lawrence C. (Biochemistry), **Erickson, Larry E.** (Center for Hazardous Substance Research), and **Roozeboom, Kraig L.,** North Atlantic Treaty Organization (NATO), \$7,684 (includes \$2,099 from In-Kind Contribution Erickson support, and \$2,133 from In-Kind Contribution -Erickson's Effort), "New Phytotechnology for Cleaning Contaminated Military Sites."

Hettiarachchi, Ganga M., Hutchinson, Stacy L. (Biological and Agricultural Engineering), and **Parameswaran, Prathap** (Civil Engineering), US Department of Agriculture, \$25,000, "Novel Platform for Channelized Nutrient Product Sequestration from Agricultural Wastewaters through Optimized Anaerobic Bioprocesses."

Jaenisch, Brent R., Fritz, Allan K., Lollato, Romulo P., Nelson, Nathan O., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$35,060, "Improving Wheat Yield and Quality with Balance Sulfur and Nitrogen Management."

Johnson, Wendy A., Assefa Mulisa, Yared, Ciampitti, Ignacio, and McCornack, Brian P. (Entomology), Kansas Corn Commission, \$998, "Corn Management Decision Guiding Website and Mobile App."

Jugulam, Mithila, and Thompson, Curtis R., Kansas Grain Sorghum Commission, \$20,000, "Mechanism of Mesotrione Tolerance in Sorghum and Screening Sorghum Germplasm for Tolerance to Synthetic Auxins."

Jugulam, Mithila, Kumar, Vipin (Agricultural Research Center-Hays), **Peterson, Dallas E., Shoup, Douglas E.** (Southeast Area Office), and **Stahlman, Phillip W.** (Agricultural Research Center-Hays), Kansas Soybean Commission, \$13,000, "Investigation of Herbicide Resistance in Waterhemp and Palmer amaranth in Kansas: Survey, Mechanism, and Management."

Kluitenberg, Gerard J., Nelson, Nathan O., Roozeboom, Kraig L., Tomlinson, Peter J., and Williams, Jeffery R. (Agricultural Economics), Kansas Corn Commission, \$500, "Cover Crops and Phosphorus Management to Protect Water Quality in Corn-Soybean Rotations."

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., DeWolf, Erick D. (Plant Pathology), **Lollato, Romulo P., and Redmond, Christopher A.,** Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Knapp, Mary C., DeWolf, Erick D. (Plant Pathology), **Lollato, Romulo P.**, and **Redmond, Christopher A.**, Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Lin, Xiaomao, Indigo Ag, Inc., \$7,000, "Memorandum of Agreement: Kansas Wheat Data Analysis for 2017 Experiments."

Lin, Xiaomao, DeWolf, Erick D. (Plant Pathology), **Lollato, Romulo P.**, **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Crop Improvement Association, "Reducing the Impact of Fusarium Head Blight."

Lin, Xiaomao, Adee, Eric A., Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), **Griffin, Terry W.** (Agricultural Economics), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$1,496, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Lin, Xiaomao, National Oceanic and Atmosphere Administration, \$70,000, "Weather Data Library Data Sets."

Lin, Xiaomao, US Department of Agriculture, \$50,000, "Evaluation of Frost and Drought Events in the US Southern Great Plains from 1981 to 2040."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$20,052, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

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., DeWolf, Erick D. (Plant Pathology), **Knapp, Mary C.**, and **Redmond, Christopher A.**, Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Lollato, Romulo P., DeWolf, Erick D. (Plant Pathology), **Knapp, Mary C.**, and **Redmond, Christopher A.**, Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Lollato, Romulo P., and Haag, Lucas A. (Northwest Area Office), Kansas Crop Improvement Association, \$12,000, "Probability of Wheat Grain Yield Response and Breaking Even to Multiple Seed Cleaning by Seed treatment Combinations at Different Seeding Rates in Kansas."

Lollato, Romulo P., DeWolf, Erick D. (Plant Pathology), **Lin, Xiaomao, Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Crop Improvement Association, "Reducing the Impact of Fusarium Head Blight."

Lollato, Romulo P., Fritz, Allan K., and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Alliance, Inc., \$15,944, "Digging through Existing Databases to Improve Variety-Specific Management Recommendations for Wheat in Kansas."

Lollato, Romulo P., Kansas Wheat Alliance, Inc., \$7,500, "Extension Resources for Kansas Wheat Producers."

Lollato, Romulo P., Fritz, Allan K., and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Alliance, Inc., \$7,200, "Keeping up with Breeding: Improved Management Recommendations at Time of Wheat Variety Release."

Lollato, Romulo P., Fritz, Allan K., Jaenisch, Brent R., Nelson, Nathan O., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$17,530, "Improving Wheat Yield and Quality with Balance Sulfur and Nitrogen Management."

Lollato, Romulo P., Duncan, Stewart R. (Northeast Area Office), **Haag, Lucas A.** (Northwest Area Office), and **Ruiz Diaz Suarez, Dorivar A.,** Kansas Wheat Commission, \$41,616, "Kansas Yield-Enhancing Strategies (KYES): II . Variety by Management Interactions at Plot and Field Scales."

Lollato, Romulo P., Kansas Wheat Commission, \$10,000, "K-State Wheat Extension Program: Extension Publications and General Extension Activities."

Lollato, Romulo P., Fritz, Allan K., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$18,944, "Wheat Nutrient Uptake and Partitioning as Affected by Era of Variety Release and Balanced Nutrition."

Lollato, Romulo P., Monsanto Company, \$19,350, "Service Order No. 53."

Lollato, Romulo P., National Crop Insurance Services, \$10,000, "NCIS Gift."

Lollato, Romulo P., Taminco, Inc., \$32,667, "Plant Growth Regulator Efficacy Testing 2017-18 Season."

Min, Doohong, Forage Genetics International, \$5,700, "Alfalfa Research Study."

Min, Doohong, National Alfalfa and Forage Alliance, \$1,200, "Identifying-Optimal Alfalfa Germplasm for Intercropping with Perennial Grasses in Dual-Purposed Cropping Systems."

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, Monsanto Company, \$15,200, "Service Order No. 51."

Moorberg, Colby, National Science Foundation, \$141,885, "Quantifying the Impact of Weather Whiplash on Roots and Hyphae with an Automated Minirhizotron Camera System."

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, \$18,654 (includes \$5,074 from In-Kind), "Kansas Water Resources Research Institute 2016."

Morris, Geoffrey, Kansas Department of Agriculture, \$150,000, "Collaborative Sorghum Investment Program Water Optimized Sorghum for Kansas."

Morris, Geoffrey, Perumal, Ramasamy (Agricultural Research Center-Hays), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), Kansas Grain Sorghum Commission, \$1,875, "Center for Sorghum Improvement Seminar Series."

Morris, Geoffrey, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Perumal, Ramasamy** (Agricultural Research Center-Hays), **SV, Krishna Jagadish**, and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$4,950, "Development of Sorghum Parental Lines with Enhanced Drought and Cold Tolerance."

Morris, Geoffrey, and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$74,070, "Improving Early-season Cold and Drought Tolerance in Grain Sorghum with Genomics and Phenomics."

Morris, Geoffrey, Pagadala, Venkata (Dean of Agriculture and Director of AES), **Perumal, Ramasamy** (Agricultural Research Center-Hays), **SV, Krishna Jagadish**, and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$13,750, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Terminal Heat and Drought Stress Resilience."

Morris, Geoffrey, Durrett, Timothy P. (Biochemistry), **Schrick, Kathrin** (Biology), **SV, Krishna Jagadish**, and **Walti, Ruth** (Biology), National Science Foundation, \$49,682, "MRI: Acquisition of an Electrospray Ionization Triple Quadrupole Mass Spectrometer with Ion Mobility Spectrometry for Improved Plant Lipidomics."

Morris, Geoffrey, US Department of Agriculture, \$30,000, "Genotyping of Sorghum for Grain Quality Traits."

Morris, Geoffrey, US Department of Agriculture, \$2,128, "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, \$175,651, "A Reference Phenotyping System for Energy Sorghum."

Nelson, Nathan O., Kluitenberg, Gerard J., Roozeboom, Kraig L., Tomlinson, Peter J., and Williams, Jeffery R. (Agricultural Economics), Kansas Corn Commission, \$3,000, "Cover Crops and Phosphorus Management to Protect Water Quality in Corn-Soybean Rotations."

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."

Nelson, Nathan O., Fritz, Allan K., Jaenisch, Brent R., Lollato, Romulo P., and Ruiz Diaz Suarez, Dorivar A., Kansas Wheat Commission, \$17,530, "Improving Wheat Yield and Quality with Balance Sulfur and Nitrogen Management."

Patrignani, Andres, Aguilar, Jonathan P. (Southwest Area Office), **Ciampitti, Ignacio**, and **Haag, Lucas A.** (Northwest Area Office), Kansas Corn Commission, \$27,574, "Improving the Assessment of Soil Moisture Conditions in Irrigated Corn Using COSMOS."

Patrignani, Andres, Bremer, Dale J. (Horticulture and Natural Resources), and **Fry, Jack D.** (Horticulture and Natural Resources), US Golf Association, Inc., \$38,920, "Development of Irrigation Scheduling Techniques that Conserve Water Using Soil Moisture Sensors, Reference Evapotranspiration, and Turfgrass Quality Data."

Peterson, Dallas E., Dille, Johanna A., Hay, Marshall M., Roozeboom, Kraig L., and Shoup, Douglas E. (Southeast Area Office), Kansas Soybean Commission, \$3,558, "Control of Pigweed with an Integrated Systems Approach in Soybean."

Peterson, Dallas E., Alvarez Santos, Eduardo, Redmond, Christopher A., and Thompson, Curtis R., Kansas Soybean Commission, \$2,659, "Improving Meteorological Measurements at Kansas Mesonet Weather Stations to Assist with Herbicide Drift Monitoring."

Peterson, Dallas E., Jugulam, Mithila, Kumar, Vipin (Agricultural Research Center-Hays), **Shoup, Douglas E.** (Southeast Area Office), and **Stahlman, Phillip W.** (Agricultural Research Center-Hays), Kansas Soybean Commission, \$13,000, "Investigation of Herbicide Resistance in Waterhemp and Palmer amaranth in Kansas: Survey, Mechanism, and Management."

Peterson, Dallas E., and Kumar, Vipin (Agricultural Research Center-Hays), Kansas Soybean Commission, \$16,447, "Non-Xtend Soybean Response to Simulate Dicamba Drift."

Peterson, Dallas E., Monsanto Company, \$16,650, "Service Order No. 52."

Peterson, Dallas E., Monsanto Company, \$7,560, "Service Order No. 56."

Peterson, Dallas E., Monsanto Company, \$8,190, "Service Order No. 57."

Peterson, Dallas E., Monsanto Company, \$8,400, "Service Order No. 58."

Peterson, Dallas E., Monsanto Company, \$10,500, "Service Order No. 59."

Peterson, Dallas E., Syngenta Seeds, Inc., \$12,000, "Seventh Amendment to the University Research Services Agreement."

Peterson, Dallas E., United Soybean Board, \$28,000, "Glyphosate Resistant Weed Project in Kansas."

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, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Pierzynski, Gary M., Support Funds, \$8,500, "AGR Support Funds Research 52."

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

Pierzynski, Gary M., US Department of Agriculture, \$100,000, "Development of DNA Markers for Resistance to Wheat Diseases."

Presley, DeAnn R., Kansas Department of Health and Environment, \$13,794, "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."

Presley, DeAnn R., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Rice, Charles W., Ruiz Diaz Suarez, Dorivar A., Shoup, Douglas E.** (Southeast Area Office), **Tomlinson, Peter J.**, and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Presley, DeAnn R., and **Tomlinson, Peter J.**, US Department of Agriculture, \$100,000, "Soil Health Monitoring Network -On-site Data Collection."

Ransom, Michel D., Fluid Fertilizer Foundation, \$14,000, "Fluid Fertilizer Foundation."

Ransom, Michel D., US Department of Agriculture, \$8,921, "Completion of the Isee Soils Database for the North Central Region."

Redmond, Christopher A., DeWolf, Erick D. (Plant Pathology), **Knapp, Mary C.**, and **Lollato, Romulo P.**, Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Redmond, Christopher A., DeWolf, Erick D. (Plant Pathology), **Knapp, Mary C., and Lollato, Romulo P.**, Kansas Crop Improvement Association, \$3,800, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

Redmond, Christopher A., Alvarez Santos, Eduardo, Peterson, Dallas E., and Thompson, Curtis R., Kansas Soybean Commission, \$10,635, "Improving Meteorological Measurements at Kansas Mesonet Weather Stations to Assist with Herbicide Drift Monitoring."

Rice, Charles W., Dodds, Walter K. (Biology), and **Zeglin, Lydia H.** (Biology), Kansas Board of Regents, \$48,044, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Rice, Charles W., Haag, Lucas A. (Northwest Area Office), **Ruiz Diaz Suarez, Dorivar A., and Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Corn Commission, \$2,450, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Corn in Kansas."

Rice, Charles W., Ciampitti, Ignacio, and Ruiz Diaz Suarez, Dorivar A., Kansas Corn Commission, \$27,278, "Soil Health Partnership: Kansas."

Rice, Charles W., Ruiz Diaz Suarez, Dorivar A., Sassenrath, Gretchen F. (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$7,386, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Soybean in 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, \$72,056, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

Rice, Charles W., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Presley, DeAnn R., Ruiz Diaz Suarez, Dorivar A., Shoup, Douglas E.** (Southeast Area Office), **Tomlinson, Peter J., and Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, \$667,779, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Rice, Charles W., Golden, Bill B. (Agricultural Economics), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), US Department of Agriculture, \$420,866, "Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate."

Roozeboom, Kraig L., Kluitenberg, Gerard J., Nelson, Nathan O., Tomlinson, Peter J., and Williams, Jeffery R. (Agricultural Economics), Kansas Corn Commission, \$1,000, "Cover Crops and Phosphorus Management to Protect Water Quality in Corn-Soybean Rotations."

Roozeboom, Kraig L., Little, Christopher R. (Plant Pathology), **SV, Krishna Jagadish,** and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$4,885, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

Roozeboom, Kraig L., Dille, Johanna A., Hay, Marshall M., Peterson, Dallas E., and Shoup, Douglas E. (Southeast Area Office), Kansas Soybean Commission, \$1,779, "Control of Pigweed with an Integrated Systems Approach in Soybean."

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., Little, Christopher R. (Plant Pathology), **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$5,768, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Roozeboom, Kraig L., National Crop Insurance Services, \$30,000, "Unrestricted Gift."

Roozeboom, Kraig L., Davis, Lawrence C. (Biochemistry), **Erickson, Larry E.** (Center for Hazardous Substance Research), and **Hettiarachchi, Ganga M.,** North Atlantic Treaty Organization (NATO), \$7,684 (includes \$2,099 from In-Kind Contribution Erickson support, and \$2,133 from In-Kind Contribution -Erickson's Effort), "New Phytotechnology for Cleaning Contaminated Military Sites."

Ruiz Diaz Suarez, Dorivar A., Haag, Lucas A. (Northwest Area Office), **Rice, Charles W.,** and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Corn Commission, \$17,150, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Corn in Kansas."

Ruiz Diaz Suarez, Dorivar A., Ciampitti, Ignacio, and **Rice, Charles W.,** Kansas Corn Commission, \$6,820, "Soil Health Partnership: Kansas."

Ruiz Diaz Suarez, Dorivar A., Ciampitti, Ignacio, and **Thompson, Curtis R.,** Kansas Grain Sorghum Commission, "Sorghum Production Schools for Kansas."

Ruiz Diaz Suarez, Dorivar A., Rice, Charles W., Sassenrath, Gretchen F. (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$14,773, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Soybean in Kansas."

Ruiz Diaz Suarez, Dorivar A., Fritz, Allan K., Jaenisch, Brent R., Lollato, Romulo P., and **Nelson, Nathan O.,** Kansas Wheat Commission, \$8,765, "Improving Wheat Yield and Quality with Balance Sulfur and Nitrogen Management."

Ruiz Diaz Suarez, Dorivar A., Duncan, Stewart R. (Northeast Area Office), **Haag, Lucas A.** (Northwest Area Office), and **Lollato, Romulo P.,** Kansas Wheat Commission, \$5,945, "Kansas Yield-Enhancing Strategies (KYES): II . Variety by Management Interactions at Plot and Field Scales."

Ruiz Diaz Suarez, Dorivar A., Fritz, Allan K., and **Lollato, Romulo P.,** Kansas Wheat Commission, \$1,052, "Wheat Nutrient Uptake and Partitioning as Affected by Era of Variety Release and Balanced Nutrition."

Ruiz Diaz Suarez, Dorivar A., Koch Agronomic Services, LLC, \$8,443, "Evaluation of Experimental Urease Inhibitors in Corn."

Ruiz Diaz Suarez, Dorivar A., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Presley, DeAnn R., Rice, Charles W., Shoup, Douglas E.** (Southeast Area Office), **Tomlinson, Peter J.**, and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Schapaugh Jr, William T., McCornack, Brian P. (Entomology), **Smith, C. Michael** (Entomology), and **Whitworth, Robert "Jeff" J.** (Entomology), Kansas Soybean Commission, \$17,587, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

Schapaugh Jr, William T., Todd, Timothy C. (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Soybean Commission, \$3,788, "Enhancement of Soybean through Genetic Engineering."

Schapaugh Jr, William T., Bheemanahallirangappa, Raju, and **SV, Krishna Jagadish**, Kansas Soybean Commission, \$3,500, "High-throughput Platform to Enhance Quality of Beans and Add Value to Kansas Soybean Breeding Program."

Schapaugh Jr, William T., Todd, Timothy C. (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Soybean Commission, \$180,852, "Integrating Germplasm Evaluation, Genetic Engineering, Breeding and High-Throughput Phenotyping to Improve Sustainability of Soybean Production."

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, \$2,287, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Schapaugh Jr, William T., North Central Soybean Research Program, \$28,779, "Increasing the Rate of Genetic Gain for Yield in Soybean Breeding Programs."

Schapaugh Jr, William T., United Soybean Board, \$53,035, "Utilizing Unique Genetic 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 through Public Breeding Advances."

Shetty, Nithin J., and **SV, Krishna Jagadish**, US Department of Agriculture, "Unlocking Wild Wheat Potential for Enhancing Water Use Efficiency and to Sustain Yield Gains under Extreme Water-deficit and Heat Stress."

Stamm, Michael J., Great Plains Canola Association, Inc., \$5,000, "Promoting Canola Production in the Southern Great Plains through Innovative Extension Education."

Stamm, Michael J., Kansas Crop Improvement Association, \$5,000, "Enhancing Winter Survival of Canola."

Stamm, Michael J., US Department of Agriculture, \$325,500, "Development and Management of Canola in the Great Plains Region."

SV, Krishna Jagadish, Flipppo, Daniel (Biological and Agricultural Engineering), **Sharda, Ajay** (Biological and Agricultural Engineering), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), CNH Industrial America LLC, \$1,475, "Testing and Evaluation Services Agreement."

SV, Krishna Jagadish, Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.**, and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$4,885, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

SV, Krishna Jagadish, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Morris, Geoffrey, Perumal, Ramasamy** (Agricultural Research Center-Hays), and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$9,900, "Development of Sorghum Parental Lines with Enhanced Drought and Cold Tolerance."

SV, Krishna Jagadish, Morris, Geoffrey, Pagadala, Venkata (Dean of Agriculture and Director of AES), **Perumal, Ramasamy** (Agricultural Research Center-Hays), and **Tesso, Tesfaye**, Kansas Grain Sorghum Commission, \$22,000, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Terminal Heat and Drought Stress Resilience."

SV, Krishna Jagadish, Bheemanahallirangappa, Raju, and **Schapaugh Jr, William T.**, Kansas Soybean Commission, \$17,500, "High-throughput Platform to Enhance Quality of Beans and Add Value to Kansas Soybean Breeding Program."

SV, Krishna Jagadish, Durrett, Timothy P. (Biochemistry), **Morris, Geoffrey, Schrick, Kathrin** (Biology), and **Welti, Ruth** (Biology), National Science Foundation, \$49,682, "MRI: Acquisition of an Electrospray Ionization Triple Quadrupole Mass Spectrometer with Ion Mobility Spectrometry for Improved Plant Lipidomics."

SV, Krishna Jagadish, National Science Foundation, \$944,250, "RII Track-2 FEC: Comparative Genomics and Phenomics Approach to Discover Genes Underlying Heat Stress Resilience in Cereals."

SV, Krishna Jagadish, Fritz, Allan K., and **Pagadala, Venkata** (Dean of Agriculture and Director of AES), US Agency for International Development, \$18,269, "Development of Heat Tolerant, High Yielding and Climate Resilient Wheat Cultivars Utilizing Genomics, Molecular and Physiological Information."

SV, Krishna Jagadish, US Department of Agriculture, \$160,000, "Impact of Heat and Drought Stress on Sorghum and Wheat Grain Composition and Chemistry."

SV, Krishna Jagadish, US Department of Agriculture, \$100,000, "Tolerance to Environmental Stress in Wheat."

SV, Krishna Jagadish, and **Shetty, Nithin J.**, US Department of Agriculture, \$11,984, "Unlocking Wild Wheat Potential for Enhancing Water Use Efficiency and to Sustain Yield Gains under Extreme Water-deficit and Heat Stress."

Tesso, Tesfaye, Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.**, and **SV, Krishna Jagadish**, Kansas Grain Sorghum Commission, \$78,160, "Breeding Sorghum for Improved Dryland Productivity and Utilization."

Tesso, Tesfaye, Aiken, Robert M. (Northwest Research Extension Center), **Little, Christopher R.** (Plant Pathology), **Morris, Geoffrey, Perumal, Ramasamy** (Agricultural Research Center-Hays), and **SV, Krishna Jagadish**, Kansas Grain Sorghum Commission, \$4,950, "Development of Sorghum Parental 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, \$4,510, "Germplasm Screening, host interactions, and lodging resilience for stalk rot diseases in Kansas."

Tesso, Tesfaye, Morris, Geoffrey, Pagadala, Venkata (Dean of Agriculture and Director of AES), **Perumal, Ramasamy** (Agricultural Research Center-Hays), and **SV, Krishna Jagadish**, Kansas Grain Sorghum Commission, \$13,750, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Terminal Heat and Drought Stress Resilience."

Thompson, Curtis R., and **Jugulam, Mithila**, Kansas Grain Sorghum Commission, \$5,000, "Mechanism of Mesotrione Tolerance in Sorghum and Screening Sorghum Germplasm for Tolerance to Synthetic Auxins."

Thompson, Curtis R., Ciampitti, Ignacio, and **Ruiz Diaz Suarez, Dorivar A.**, Kansas Grain Sorghum Commission, "Sorghum Production Schools for Kansas."

Thompson, Curtis R., Alvarez Santos, Eduardo, Peterson, Dallas E., and **Redmond, Christopher A.**, Kansas Soybean Commission, \$2,659, "Improving Meteorological Measurements at Kansas Mesonet Weather Stations to Assist with Herbicide Drift Monitoring."

Thompson, Curtis R., Support Funds, \$240,750, "AGR Support Funds Public Service 35."

Tomlinson, Peter J., Kluitenberg, Gerard J., Nelson, Nathan O., Roozeboom, Kraig L., and **Williams, Jeffery R.** (Agricultural Economics), Kansas Corn Commission, \$250, "Cover Crops and Phosphorus Management to Protect Water Quality in Corn-Soybean Rotations."

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Tomlinson, Peter J., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Presley, DeAnn R., Rice, Charles W., Ruiz Diaz Suarez, Dorivar A., Shoup, Douglas E.** (Southeast Area Office),

and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Tomlinson, Peter J., and Presley, DeAnn R., US Department of Agriculture, \$100,000, "Soil Health Monitoring Network -On-site Data Collection."

Welch, Stephen M., Alvarez Santos, Eduardo, Corwin, Kristan L. (Physics), and **Washburn, Brian R.** (Physics), National Science Foundation, \$169,243, "MRI: Agro-Combs: Development of A Mid-Infrared Dual-Comb Spectrometer."

Welch, Stephen M., Das, Sanjoy (Electrical and Computer Engineering), **Flippo, Daniel** (Biological and Agricultural Engineering), **Sharda, Ajay** (Biological and Agricultural Engineering), and **Temme, Arnaud** (Geography), US Department of Agriculture, \$188,511, "NRI: INT: Multi-Robot Farming on Marginal, Highly Sloped Lands."

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Amamcharla, Jayendra K., Michael, Minto, and Phebus, Randall K., Dairy Management, Inc., \$20,597, "Development and Evaluation of Selective Methods for Rapid Detection of Bacillus Endospores in Nonfat Dry Milk."

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Aramouni, Fadi M., Bates, Marlin A. (County Agents -Metropolitan Sector), **Gragg, Sara E., Nwadike, Londa S.** (Director of Cooperative Extension), **Phebus, Randall K., Pliakoni, Eleni** (Horticulture and Natural Resources), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Food and Drug Administration, \$400, "Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework."

Beyer, R. Scott, CEVA Sante Animale, \$15,590, "Evaluating Pre-hatch Egg Treatment on the Performance of Broiler Chicks."

Beyer, R. Scott, Paulk, Chad B. (Grain Science and Industry), and **Stark, Charles** (Grain Science and Industry), Jefe Nutrition, Inc., \$13,160, "Effects of Jefe Protease and Dietary Lysine on Turkey Performance."

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Blasi, Dale A., and Coetzee, Johann F. (Anatomy and Physiology), Merck Animal Health, \$30,872, "A Field Study to Investigate the Effect of Analgesia on the Health and Performance of Transported Middle-weight Feedlot Calves on Arrival at the Feedlot."

Blasi, Dale A., Syngenta Crop Protection, LLC, \$187,134, "The Evaluation of Syngenta Enogen Feed Corn Silage and Corn on Performance and Health of Growing Beef Cattle."

Bradford, Barry J., and **McGill, Jodi L.** (Diagnostic Medicine/Pathobiology), Cargill Animal Nutrition, \$57,000, "In vitro Screening System for Immune-Modulating Feed Components."

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

Bradford, Barry J., and **Delamanha Mendonca, Luis G.**, NutriQuest, \$20,763, "Evaluation of NutriQuest Topical Heat Stress Aid for Reducing Heat Stress in Lactating Dairy Cows."

Bradford, Barry J., **Delamanha Mendonca, Luis G.**, **Hulbert, Lindsey E.**, and **McGill, Jodi L.** (Diagnostic Medicine/Pathobiology), Phibro Animal Health Corporation, \$62,642, "Evaluating Impacts of Omnigen on Immune/Reproductive Interactions during the Transition to Lactation."

Crane, Alison R., and **Jones, Cassandra K.**, Kansas Corn Commission, \$12,696, "Utilizing Undergraduate Research to Evaluate DDGS as a Replacement for SBM in Boer Grower Rations."

Delamanha Mendonca, Luis G., Feed One Co., Ltd., \$30,000, "Feed One Co. Ltd. Dairy Cattle Physiology Fellowship."

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DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, Micronutrients, \$5,000, "Effects of Increasing Levels of Zn from Zinc Sulfate or Intellibond Z 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.**, Minnesota Pork Board, \$20,731 (includes \$7,000 from Third Party Match), "Supplying Increased SID Lys and Energy During Transition to Improve Piglet Survivability, Sow Productivity, and Litter Performance."

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DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D., and Woodworth, Jason C.**, Ocean Harvest Technology Limited, \$15,720, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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.), \$5,600,

"Determining the Effects of Different Ca:P Ratios on Growth Performance, Carcass Characteristics, Bone Mineralization, 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.**, Purco, \$10,800, "PURCO Project."

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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, \$13,780, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Drouillard, James S., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Lattimer, James M., Tokach, Michael D., and Woodworth, Jason C.**, Kansas Corn Commission, \$8,400, "Synthesis of High-value Feed Additives through Fermentation of Biofuels Co-products."

Drouillard, James S., and Gragg, Sara E., MS Biotec, \$57,760, "Impact of the Probiotic Organism, *Megasphaera Elsdenii* on Prevalence of *Escherichia coli* 0157:H7 in Finishing Cattle."

Drouillard, James S., and Stark, Charles (Grain Science and Industry), Syngenta Crop Protection, LLC, \$173,278, "Steam Flaking."

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Gonzalez, John M., Barstow, Thomas J. (Kinesiology), **Flippo, Daniel** (Biological and Agricultural Engineering), **Rozell, Timothy G., and Woodworth, Jason C.**, US Department of Agriculture, \$87,500, "Effect of Transport Trailer Vibration on Muscle Fatigue and the Non-ambulatory Condition."

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Michael D., and Woodworth, Jason C., Ocean Harvest Technology Limited, \$15,720, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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Gragg, Sara E., O'Quinn, Travis G., Phebus, Randall K., Trinetta, Valentina, and Vipham, Jessie (Dean of Agriculture and Director of AES), Foundation for Meat and Poultry Research and Education, \$23,025, "Validation of Post-harvest Antimicrobial Interventions to Control Salmonella and Shiga Toxin-producing Escherichia coli (STEC) on Market Hog Carcass Surfaces and Pork Products."

Gragg, Sara E., and **Pliakoni, Eleni** (Horticulture and Natural Resources), Jones-Hamilton Company, \$9,923, "Efficacy of Sodium Bisulfate as a Postharvest Wash Water Sanitizer."

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Hulbert, Lindsey E., Bradford, Barry J., Delamanha Mendonca, Luis G., and McGill, Jodi L. (Diagnostic Medicine/Pathobiology), Phibro Animal Health Corporation, \$26,847, "Evaluating Impacts of Omnigen on Immune/Reproductive Interactions during the Transition to Lactation."

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Jones, Cassandra K., Fats and Proteins Research Foundation, Inc., \$15,000, "Inspection Smarts - Best Practices for FSMA Animal Food Inspections."

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Jones, Cassandra K., National Pork Board, \$5,000, "Effect of Conditioning Temperature and Pellet Diameter on Nursery Pig Growth Performance."

Jones, Cassandra K., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), **Phebus, Randall K., Trinetta, Valentina**, and **Woodworth, Jason C.**, National Pork Board, \$5,788, "Understanding Ecology and Distribution of Escherichia Coli O157:H7 and Non-O157:H7 STEC in US Swine Feed Mills."

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Lattimer, James M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Drouillard, James S., Tokach, Michael D.**, and **Woodworth, Jason C.**, Kansas Corn Commission, \$8,400, "Synthesis of High-value Feed Additives through Fermentation of Biofuels Co-products."

Lee, Charles D., Kansas Department of Wildlife and Parks, \$4,719, "Extension Education Position Support."

Michael, Minto, Amamcharla, Jayendra K., and **Phebus, Randall K.**, Dairy Management, Inc., \$2,575, "Development and Evaluation of Selective Methods for Rapid Detection of Bacillus Endospores in Nonfat Dry Milk."

Nelssen, Jim L., DSM Nutritional Products AG, \$50,000, "DSM Nutritional Products Fellowship."

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O'Quinn, Travis G., Gragg, Sara E., Phebus, Randall K., Trinetta, Valentina, and Vipham, Jessie (Dean of Agriculture and Director of AES), Foundation for Meat and Poultry Research and Education, \$11,513, "Validation of Post-harvest Antimicrobial Interventions to Control Salmonella and Shiga Toxin-producing Escherichia coli (STEC) on Market Hog Carcass Surfaces and Pork Products."

O'Quinn, Travis G., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C.**, National Pork Board, \$20,839, "Projecting Changes in Pork Quality, Eating Experience, and Muscle Physiology due to Increasing Carcass Weights."

Phebus, Randall K., Amamcharla, Jayendra K., and Michael, Minto, Dairy Management, Inc., \$2,575, "Development and Evaluation of Selective Methods for Rapid Detection of Bacillus Endospores in Nonfat Dry Milk."

Phebus, Randall K., Gragg, Sara E., O'Quinn, Travis G., Trinetta, Valentina, and Vipham, Jessie (Dean of Agriculture and Director of AES), Foundation for Meat and Poultry Research and

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Phebus, Randall K., Jones, Cassandra K., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), **Trinetta, Valentina**, and **Woodworth, Jason C.**, National Pork Board, \$5,788, "Understanding Ecology and Distribution of Escherichia Coli O157:H7 and Non-O157:H7 STEC in US Swine Feed Mills."

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Rolf, Megan, US Department of Agriculture, \$263,143, "Beef Cattle Selection and Management for Adaptation to Drought."

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Rozell, Timothy G., Barstow, Thomas J. (Kinesiology), **Flippo, Daniel** (Biological and Agricultural Engineering), **Gonzalez, John M.**, and **Woodworth, Jason C.**, US Department of Agriculture, \$2,500, "Effect of Transport Trailer Vibration on Muscle Fatigue and the Non-ambulatory Condition."

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Tarpoff, Anthony J., Jaeger, John R. (Agricultural Research Center-Hays), and **Waggoner, Justin** (Southwest Area Office), Alliance Liquid Feeds, "Effects of Cellarat-Ore C.P.R. Fed during the Receiving Period on Cattle Performance, Morbidity, IBR Vaccine Response and Carcass Characteristics."

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Titgemeyer, Evan C., Evonik Nutrition & Care GmbH, \$10,000, "Evaluating the Ruminant Degradation of a Nutrient."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Ajinomoto Co., Inc, \$4,000, "Histidine: Lysine Requirement for 15 to 25 lb Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Ajinomoto Co., Inc, \$4,000, "Influence of Fermentation Byproduct on Urine pH."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Biomune Company, \$26,230, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Biomune Company, \$21,193, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, DSM Nutritional Products AG, \$17,800, "Studies to Evaluate the Effects of Phytase in Swine Diets or Premixes."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, JBS USA, \$12,000, "JBS Live Park Applied Swine Nutrition Fellowship."

Tokach, Michael D., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Drouillard, James S., Lattimer, James M., and Woodworth, Jason C.**, Kansas Corn Commission, \$8,400, "Synthesis of High-value Feed Additives through Fermentation of Biofuels Co-products."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Kemin Industries, \$5,000, "Evaluation of a Medium Chain Fatty Acid (MCFA) Based Ingredient in Nursey Pig Diets."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Lincolnway Energy, LLC, \$8,000, "Effects of High Protein DDGS on Growth Performance of Nursery Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Micronutrients, \$13,800, "Effects of Feeding Increasing Levels of Iron from Either Iron Sulfate or a New Source of Dietary Iron on Growth Performance and Iron Status of Nursery Pigs."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Woodworth, Jason C.**, Micronutrients, \$5,000, "Effects of Increasing Levels of Zn from Zinc Sulfate or Intellibond Z 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.**, Minnesota Pork Board, \$20,731 (includes \$7,000 from Third Party Match), "Supplying Increased SID Lys and Energy During Transition to Improve Piglet Survivability, Sow Productivity, and Litter Performance."

Tokach, Michael D., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Hefley, Trevor** (Statistics), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.**, National Pork Board, \$2,910, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., O'Quinn, Travis G.**, and **Woodworth, Jason C.**, National Pork Board, \$20,839, "Projecting Changes in Pork Quality, Eating Experience, and Muscle Physiology due to Increasing Carcass Weights."

Tokach, Michael D., Amachawadi, Raghavendra G. (Clinical Sciences), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **DeRouchey, Joel M., Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.**, National Pork Board, \$9,389, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.**, Ocean Harvest Technology Limited, \$19,650, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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.), \$5,600, "Determining the Effects of Different Ca:P Ratios on Growth Performance, Carcass Characteristics, Bone Mineralization, 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.**, Purco, \$10,800, "PURCO Project."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Woodworth, Jason C.**, Quality Technology International, Inc., \$10,000, "Effect of CALSPORIN on Sow Fecal Microflora and Piglet Growth Performance, Fecal Consistency, and Fecal Microflora until the Nursery Phase."

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.**, Swine Health Information Center, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Tokach, Michael D., Tokach, Lisa M. (Diagnostic Medicine/Pathobiology), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, \$90,000, "Improved Pig Health and Nutrition: The Major Drivers of Profitability and Sustainability for Smallholder Farmers in Cambodia."

Trinetta, Valentina, Gragg, Sara E., O'Quinn, Travis G., Phebus, Randall K., and Vipham, Jessie (Dean of Agriculture and Director of AES), Foundation for Meat and Poultry Research and Education, \$17,269, "Validation of Post-harvest Antimicrobial Interventions to Control Salmonella and Shiga Toxin-producing Escherichia coli (STEC) on Market Hog Carcass Surfaces and Pork Products."

Trinetta, Valentina, Jones, Cassandra K., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), **Phebus, Randall K., and Woodworth, Jason C.**, National Pork Board, \$28,939, "Understanding Ecology and Distribution of Escherichia Coli O157:H7 and Non-O157:H7 STEC in US Swine Feed Mills."

Trinetta, Valentina, Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Veterinary Diagnostic Laboratory), **Paulk, Chad B.** (Grain Science and Industry), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Woodworth, Jason C.**, Swine Health Information Center, \$3,225, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Trinetta, Valentina, Coffey, Brian (Agricultural Economics), **Nwadike, Londa S.** (Director of Cooperative Extension), **Pliakoni, Eleni** (Horticulture and Natural Resources), and **Yucel, Umut**, US Department of Agriculture, \$24,530, "Effective Packing Practices to Control Postharvest Disease in Small Fruit Crops."

Trinetta, Valentina, Smith, J. Scott, and **Yucel, Umut**, US Department of Health and Human Services, \$9,900, "Development of Validation of Analytical and Physical Testing Methods to Evaluate the Irradiation History of Animal Feeds."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Ajinomoto Co., Inc, \$4,000, "Histidine: Lysine Requirement for 15 to 25 lb Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Ajinomoto Co., Inc, \$4,000, "Influence of Fermentation Byproduct on Urine pH."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Biomune Company, \$26,230, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Biomune Company, \$21,193, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, DSM Nutritional Products AG, \$17,800, "Studies to Evaluate the Effects of Phytase in Swine Diets or Premixes."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, JBS USA, \$12,000, "JBS Live Park Applied Swine Nutrition Fellowship."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Drouillard, James S., Lattimer, James M., and Tokach, Michael D.**, Kansas Corn Commission, \$8,400, "Synthesis of High-value Feed Additives through Fermentation of Biofuels Co-products."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Kemin Industries, \$5,000, "Evaluation of a Medium Chain Fatty Acid (MCFA) Based Ingredient in Nursey Pig Diets."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Lincolnway Energy, LLC, \$8,000, "Effects of High Protein DDGS 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.**, Micronutrients, \$13,800, "Effects of Feeding Increasing Levels of Iron from Either Iron Sulfate or a New Source of Dietary Iron on Growth Performance and Iron Status of Nursery Pigs."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., and Tokach, Michael D.**, Micronutrients, \$5,000, "Effects of Increasing Levels of Zn from Zinc Sulfate or Intellibond Z 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.**, Minnesota Pork Board, \$20,731 (includes \$7,000 from Third Party Match), "Supplying Increased SID Lys and Energy During Transition to Improve Piglet Survivability, Sow Productivity, and Litter Performance."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Hefley, Trevor** (Statistics), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, National Pork Board, \$4,364, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., O'Quinn, Travis G., and Tokach, Michael D.**, National Pork Board, \$20,839, "Projecting Changes in Pork Quality, Eating Experience, and Muscle Physiology due to Increasing Carcass Weights."

Woodworth, Jason C., Amachawadi, Raghavendra G. (Clinical Sciences), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **DeRouchey, Joel M., Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, National Pork Board, \$14,084, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

Woodworth, Jason C., Jones, Cassandra K., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), **Phebus, Randall K., and Trinetta, Valentina**, National Pork Board, \$5,788, "Understanding Ecology and Distribution of Escherichia Coli O157:H7 and Non-O157:H7 STEC in US Swine Feed Mills."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, Ocean Harvest Technology Limited, \$15,720, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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.), \$5,600, "Determining the Effects of Different Ca:P Ratios on Growth Performance, Carcass Characteristics, Bone Mineralization, and Economics of Growing-Finishing Pigs."

Woodworth, Jason C., PIC North America (PIC USA, Inc.), \$30,000, "KSU Applied Swine Nutrition Fellowship."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Tokach, Michael D.**, Purco, \$10,800, "PURCO Project."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), and **Jones, Cassandra K.**, Purina Animal Nutrition, LLC, \$3,672, "PMI Nutritional Additives: Assessing the Effects of MCFA on PEDV Quantity and Infectivity."

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.**, and **Tokach, Michael D.**, Quality Technology International, Inc., \$10,000, "Effect of CALSPORIN on Sow Fecal Microflora and Piglet Growth Performance, Fecal Consistency, and Fecal Microflora until the Nursery Phase."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R.** (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.**, Swine Health Information Center, \$3,548, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K., Niederwerder, Megan** (Veterinary Diagnostic Laboratory), **Paulk, Chad B.** (Grain Science and Industry), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), and **Trinetta, Valentina**, Swine Health Information Center, \$1,075, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Woodworth, Jason C., Barstow, Thomas J. (Kinesiology), **Flippo, Daniel** (Biological and Agricultural Engineering), **Gonzalez, John M.**, and **Rozell, Timothy G.**, US Department of Agriculture, \$3,750, "Effect of Transport Trailer Vibration on Muscle Fatigue and the Non-ambulatory Condition."

Yucel, Umut, Chen, Gengjun (Grain Science and Industry), and **Li, Yonghui** (Grain Science and Industry), Kansas Soybean Commission, \$1,977, "Soy Flour as a Primary and Vital Ingredient in Gluten-free Bakery Products."

Yucel, Umut, Coffey, Brian (Agricultural Economics), **Nwadike, Londa S.** (Director of Cooperative Extension), **Pliakoni, Eleni** (Horticulture and Natural Resources), and **Trinetta, Valentina**, US Department of Agriculture, \$21,026, "Effective Packing Practices to Control Postharvest Disease in Small Fruit Crops."

Yucel, Umut, Smith, J. Scott, and **Trinetta, Valentina**, US Department of Health and Human Services, \$59,400, "Development of Validation of Analytical and Physical Testing Methods to Evaluate the Irradiation History of Animal Feeds."

COMMUNICATIONS AND AGRICULTURAL EDUCATION

Hock, Gaea, US Department of Agriculture, \$109,591, "Connecting Research Centers to Secondary Agricultural Education Students in Idaho, Kansas, and Oklahoma."

Hock, Gaea, Miller, Chad T. (Horticulture and Natural Resources), and **Williams, Kimberly A.** (Horticulture and Natural Resources), US Department of Agriculture, \$10,000, "Online Modules for High School Teachers that Hybridize Horticulture and Science Curricula While Promoting Horticulture as a Career."

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

Bascom, Nathanael D., and **Dalton, Timothy J.**, Grains Research and Development Corporation, \$2,583, "Conference Sponsorship: Sorghum in the 21st Century: Food, Feed and Fuel for a Rapidly Changing World."

Bascom, Nathanael D., and **Dalton, Timothy J.**, McKnight Foundation, \$28,050, "Strengthening Agro Ecological Intensification and Farmer Research Network Participation at the Sorghum in the 21st Century Global Conference."

Bascom, Nathanael D., and **Dalton, Timothy J.**, United Sorghum Checkoff Program, \$21,250, "Sorghum in the 21st Century Global Sorghum Conference."

Bascom, Nathanael D., **Minton, J. Ernest** (Agricultural Experiment Station), and **Sexton-Bowser, Sarah A.**, US Department of Agriculture, \$12,250, "Enhancement of Professional Development in Plant Breeding through "The Sorghum in the 21st Century" Conference."

Dalton, Timothy J., and **Bascom, Nathanael D.**, Grains Research and Development Corporation, \$456, "Conference Sponsorship: Sorghum in the 21st Century: Food, Feed and Fuel for a Rapidly Changing World."

Dalton, Timothy J., and **Bascom, Nathanael D.**, McKnight Foundation, \$4,950, "Strengthening Agro Ecological Intensification and Farmer Research Network Participation at the Sorghum in the 21st Century Global Conference."

Dalton, Timothy J., and Bascom, Nathanael D., United Sorghum Checkoff Program, \$3,750, "Sorghum in the 21st Century Global Sorghum Conference."

Dalton, Timothy J., US Agency for International Development, \$110,697, "Implement a Genomics-Assisted Breeding Program in a Small Breeding Program in a Developing Country."

Dalton, Timothy J., US Agency for International Development, \$2,408,302, "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, \$1,002,193, "Feed the Future Innovation Lab for the Reduction of Post-Harvest Loss."

Lilja, Nina K., Amanor-Boadu, Vincent R. (Agricultural Economics), **Barkley, Andrew P.** (Agricultural Economics), **Featherstone, Allen M.** (Agricultural Economics), and **Schwab, Benjamin B.** (Agricultural Economics), US Agency for International Development, "BHEARD Program: Ghana."

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

Pagadala, Venkata, Morris, Geoffrey (Agronomy), **Perumal, Ramasamy** (Agricultural Research Center-Hays), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, "Physiological and Genetic Characterization of Grain Sorghum for Enhancing Terminal Heat and Drought Stress Resilience."

Pagadala, Venkata, Fritz, Allan K. (Agronomy), and **SV, Krishna Jagadish** (Agronomy), US Agency for International Development, \$26,098, "Development of Heat Tolerant, High Yielding and Climate Resilient Wheat Cultivars Utilizing Genomics, Molecular and Physiological Information."

Pagadala, Venkata, Lilja, Nina K. (International Agricultural Programs), and **Pierzynski, Gary M.** (Agronomy), US Agency for International Development, \$5,780,461, "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., United Services Foundation, \$10,000, "Center of Excellence on Sustainable Agricultural Intensification and Nutrition Reasmey Sophornna High School Undergraduate Scholarships."

Reyes, Manuel R., and Pagadala, Venkata, US Agency for International Development, \$138,332, "Scaling Up Drip Irrigation, Conservation Agriculture and Rainwater Harvesting for Commercial Vegetable Home Gardens to Specially Benefit Women and Youth."

Sexton-Bowser, Sarah A., Morris, Geoffrey (Agronomy), and **Perumal, Ramasamy** (Agricultural Research Center-Hays), Kansas Grain Sorghum Commission, \$3,750, "Center for Sorghum Improvement Seminar Series."

Sexton-Bowser, Sarah A., Bascom, Nathanael D., and Minton, J. Ernest (Agricultural Experiment Station), US Department of Agriculture, \$12,250, "Enhancement of Professional Development in Plant Breeding through "The Sorghum in the 21st Century" Conference."

Sexton-Bowser, Sarah A., Aldrich, Greg (Grain Science and Industry), **Koppel, Kadri** (Food, Nutrition, Dietetics and Health), and **Miller, Brandi M.** (Grain Science and Industry), US Department of Agriculture, \$12,309 (includes \$3,450 from Third-Party Match), "Reintroducing Kansas Grain to Midwest Pet Food Manufacturing and Processing Markets."

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, \$82,682, "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), **O'Quinn, Travis G.** (Animal Sciences and Industry), **Phebus, Randall K.** (Animal Sciences and Industry), and **Trinetta, Valentina** (Animal Sciences and Industry), Foundation for Meat and Poultry Research and Education, \$17,269, "Validation of Post-harvest Antimicrobial Interventions to Control Salmonella and Shiga Toxin-producing Escherichia coli (STEC) on Market Hog Carcass Surfaces and Pork Products."

Vipham, Jessie, Tokach, Lisa M. (Diagnostic Medicine/Pathobiology), and **Tokach, Michael D.** (Animal Sciences and Industry), US Agency for International Development, \$30,000, "Improved Pig Health and Nutrition: The Major Drivers of Profitability and Sustainability for Smallholder Farmers in Cambodia."

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, \$124,023, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

ENTOMOLOGY

Cloyd, Raymond A., Gloeckner Foundation, Inc. (Fred C.), \$10,000, "Impact of Application Frequency and Spray Volume on the Efficacy of Insecticides Against Western Flower Thrips (*Frankliniella occidentalis*) and Citrus Mealybug (*Planococcus citri*) Under Greenhouse Conditions."

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, \$19,692, "Merging

Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Johnson, Wendy, McCornack, Brian P., Nouri, Shahideh (Plant Pathology), **Poland, Jesse A.** (Plant Pathology), and **Smith, C. Michael**, Kansas Wheat Commission, "Integrative and Innovative Approaches to Diminish Barley Yellow Dwarf Epidemics in Kansas Wheat."

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, \$17,230, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Londono, Berlin L., Uniformed Services University of Health Sciences, \$25,226, "Mosquito Vector Exposure in DoD Beneficiaries Going to High Risk Regions for Malaria or Arboviral Infections."

Londono, Berlin L., US Department of Agriculture, \$62,700, "The Role of Virus-vector Interactions in Emerging Vesicular Stomatitis Virus Outbreaks."

Londono, Berlin L., US Department of Health and Human Services, \$15,200, "Effect of Pre-existing Dengue Virus Immunity on Zika Virus Infection."

Londono, Berlin L., US Department of Health and Human Services, \$50,000, "Vector-Human Contact for Biomarkers for Anopheline Exposure in the Americas."

McCornack, Brian P., and **Ciampitti, Ignacio** (Agronomy), Kansas Corn Commission, \$80,739, "Beyond the Summer Science Institute -Using Corn in the Curriculum to Advance Inquiry-based Learning."

McCornack, Brian P., Assefa Mulisa, Yared (Agronomy), **Ciampitti, Ignacio** (Agronomy), and **Johnson, Wendy A.** (Agronomy), Kansas Corn Commission, \$16,467, "Corn Management Decision Guiding Website and Mobile App."

McCornack, Brian P., and **Alberto, Jamie** (Curriculum and Instruction), Kansas Corn Commission, \$11,698, "Special Topics Course for Elementary Education Majors at Kansas State University."

McCornack, Brian P., Kansas Soybean Commission, \$50,750, "Agricultural Research Experiences for Teachers (RET)-Using Soybean as a Model System."

McCornack, Brian P., Schapaugh Jr, William T. (Agronomy), **Smith, C. Michael**, and **Whitworth, Robert "Jeff" J.**, Kansas Soybean Commission, \$17,587, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

McCornack, Brian P., Johnson, Wendy, Nouri, Shahideh (Plant Pathology), **Poland, Jesse A.** (Plant Pathology), and **Smith, C. Michael**, Kansas Wheat Commission, \$4,700, "Integrative and Innovative Approaches to Diminish Barley Yellow Dwarf Epidemics in Kansas Wheat."

McCornack, Brian P., North Central Soybean Research Program, \$30,000, "Soybean Entomology in the North Central Region: Management and Outreach for New and Existing Pests."

McCornack, Brian P., US Department of Agriculture, \$70,325, "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 Area Office), US Department of Agriculture, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Michaud, John P., US Department of Agriculture, \$26,647, "Areawide Pest Management of the Invasive Sugarcane Aphid in Grain Sorghum -Kansas, Sugarcane Aphid Monitoring and Biocontrol."

Miller, Frannie L., and Zukoff, Sarah N. (Southwest Area Office), US Department of Agriculture, \$10,000, "Kansas Agricultural Production Pollinator Habitat Utilization Survey."

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 Research Extension Center), US Department of Agriculture, \$31,999, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Miller, Frannie L., US Environmental Protection Agency, \$24,050, "Educating Kansas Pesticide Applicators."

Park, Yoonseong, Monsanto Company, \$300,000, "Characterization of the Insecticidal Activity of Insecticidal Proteins on Western Corn Rootworm Larvae and its Alimentary Canal."

Park, Yoonseong, Ng, Ho Leung (Biochemistry), and **Prakash, Om** (Biochemistry), US Department of Health and Human Services, \$168,403, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Phillips, Thomas W., and Zhu, Kun Yan, US Department of Agriculture, \$162,500, "Developing and Implementing a Diversified Integrated Pest Management Program to Prevent Stored Product Insect Infestation."

Phillips, Thomas W., US Department of Agriculture, \$80,740, "Improved Trapping and Control Tools for Khapra Beetle."

Phillips, Thomas W., US Department of Agriculture, \$122,074, "Integration of Food Grade Coatings into Ham Nets as a Means to Control Ham Mite Infestation."

Phillips, Thomas W., US Department of Agriculture, \$499,713, "IPM for the Ham Mite Using Alternatives to Methyl Bromide."

Ruberson, John R., Support Funds, \$40,300, "AEN Support Funds Off-Campus 26."

Ruberson, John R., Support Funds, \$23,000, "AEN Support Funds Research 50."

Smith, C. Michael, McCornack, Brian P., Schapaugh Jr, William T. (Agronomy), and **Whitworth, Robert "Jeff" J.**, Kansas Soybean Commission, \$17,587, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

Smith, C. Michael, Johnson, Wendy, McCornack, Brian P., Nouri, Shahideh (Plant Pathology), and **Poland, Jesse A.** (Plant Pathology), Kansas Wheat Commission, \$18,800, "Integrative and Innovative Approaches to Diminish Barley Yellow Dwarf Epidemics in Kansas Wheat."

Smith, C. Michael, US Department of Agriculture, \$109,117, "Principles Underlying the Spread of Sorghum Halepense, Toward its Containment and Mitigation."

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 Research Extension Center), US Department of Agriculture, \$12,307, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Whitworth, Robert "Jeff" J., McCornack, Brian P., Schapaugh Jr, William T. (Agronomy), and **Smith, C. Michael**, Kansas Soybean Commission, \$17,587, "Development of Genetic, Chemical and Population-Based Tactics to Manage Key Kansas Soybean Insect Pests."

Whitworth, Robert "Jeff" J., US Department of Agriculture, \$65,000, "Functions of Hessian Fly Effector Proteins in Wheat."

Zhu, Kun Yan, and **Phillips, Thomas W.**, US Department of Agriculture, \$162,500, "Developing and Implementing a Diversified Integrated Pest Management Program to Prevent Stored Product Insect Infestation."

Zurek, Ludek, US Department of Agriculture, \$180,000, "Fly-microbe Interactions Across Life History."

GRAIN SCIENCE AND INDUSTRY

Aldrich, Greg, IsoNova Technologies, Inc., \$24,049, "An Evaluation of the Protein Quality of Various Spray Dried Egg Fractions Found in the Feed and Pet Food Market."

Aldrich, Greg, Jones-Hamilton Company, \$31,130, "Assessing the Efficacy of Chemical Treatment to Control Salmonella in Rendered Chicken Fat."

Aldrich, Greg, Jones, Cassandra K. (Animal Sciences and Industry), and **Li, Yonghui**, Kansas Corn Commission, \$1,952, "Converting Distiller's Grains to High-Value Healthy Natural Antioxidants."

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

Aldrich, Greg, Purina Animal Nutrition, LLC, \$58,289, "Assessing the Efficacy of Medium Chain Fatty Acids (NCFA) to Control Salmonella Typhimurium on Pet Food Kibbles."

Aldrich, Greg, South Dakota Innovation Partners, \$2,360, "Consulting Agreement."

Aldrich, Greg, Koppel, Kadri (Food, Nutrition, Dietetics and Health), **Miller, Brandi M.**, and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$160,013 (includes \$44,850 from Third-Party Match), "Reintroducing Kansas Grain to Midwest Pet Food Manufacturing and Processing Markets."

Bhadriraju, Subramanyam, Kansas State University Foundation, \$25,000, "Professor Donald A. Wibur Endowed Professorship in Stored-Product Protection."

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., \$21,164, "Project Charge -Service Task Order #1."

Campabadal Teran, Carlos, O'Neil III, Howard J., Smith, Gordon L., and **Thiele, Shawn M.**, Kansas Corn Commission, \$20,000, "Market Development Grant International Grains Program."

Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., Smith, Gordon L., and **Thiele, Shawn M.**, Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

Campabadal Teran, Carlos, O'Neil III, Howard J., Smith, Gordon L., and **Thiele, Shawn M.**, Kansas Soybean Commission, "Market Development Grant -International Grains Program."

Campabadal Teran, Carlos, O'Neil III, Howard J., Smith, Gordon L., and **Thiele, Shawn M.**, Kansas Wheat Commission, \$10,000, "Market Development Grant -IGP Institute."

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, Miller, Brandi M., O'Neil III, Howard J., and Thiele, Shawn M., US Department of Agriculture, \$20,784, "Cochran Program for Egypt Risk Management for Grains and Oilseeds -Africa and Middle East Region: Egypt."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$15,300, "Addendum to Independent Contractor Master Agreement: 18KA022U64B."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$25,740, "Addendum to Independent Contractor Master Agreement: 18KA02F54A."

Campabadal Teran, Carlos, and Thiele, Julie M., US Soybean Export Council, Inc., \$61,200, "Addendum to Independent Contractor Master Agreement: 18KA02F54C."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$27,000, "Addendum to Independent Contractor Master Agreement: 18KA02M54A."

Campabadal Teran, Carlos, O'Neil III, Howard J., Paulk, Chad B., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$12,000, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

Campabadal Teran, Carlos, and Thiele, Shawn M., US Soybean Export Council, Inc., \$42,750, "Addendum to Independent Contractor Master Agreement: 18KA2F54B."

Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$20,380, "USSEC Addendum to Independent Contractor Master Agreement 18KAO2U64A."

Chen, Gengjun, Li, Yonghui, and Yucel, Umut (Animal Sciences and Industry), Kansas Soybean Commission, \$3,953, "Soy Flour as a Primary and Vital Ingredient in Gluten-free Bakery Products."

Li, Yonghui, Aldrich, Greg, and Jones, Cassandra K. (Animal Sciences and Industry), Kansas Corn Commission, \$35,136, "Converting Distiller's Grains to High-Value Healthy Natural Antioxidants."

Li, Yonghui, Chen, Gengjun, and Yucel, Umut (Animal Sciences and Industry), Kansas Soybean Commission, \$33,601, "Soy Flour as a Primary and Vital Ingredient in Gluten-free Bakery Products."

Li, Yonghui, Smith, Gordon L., and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Commission, \$32,420, "Determining Phytochemical Profiles of Kansas Wheat Varieties to Facilitate Breeding and Marketing of Health-Beneficial Wheats."

Li, Yonghui, Kansas Wheat Commission, \$92,044, "Kansas Wheat Quality Lab 2018."

Miller, Brandi M., Campabadal Teran, Carlos, O'Neil III, Howard J., Smith, Gordon L., and Thiele, Shawn M., Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

Miller, Brandi M., Campabadal Teran, Carlos, O'Neil III, Howard J., and Thiele, Shawn M., US Department of Agriculture, \$10,392, "Cochran Program for Egypt Risk Management for Grains and Oilseeds -Africa and Middle East Region: Egypt."

Miller, Brandi M., Aldrich, Greg, Koppel, Kadri (Food, Nutrition, Dietetics and Health), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$36,926 (includes \$10,350 from Third-Party Match), "Reintroducing Kansas Grain to Midwest Pet Food Manufacturing and Processing Markets."

Miller, Brandi M., Campabadal Teran, Carlos, O'Neil III, Howard J., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$4,076, "USSEC Addendum to Independent Contractor Master Agreement 18KAO2U64A."

O'Neil III, Howard J., Campabadal Teran, Carlos, Smith, Gordon L., and Thiele, Shawn M., Kansas Corn Commission, \$20,000, "Market Development Grant International Grains Program."

O'Neil III, Howard J., Campabadal Teran, Carlos, Miller, Brandi M., Smith, Gordon L., and Thiele, Shawn M., Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

O'Neil III, Howard J., Campabadal Teran, Carlos, Smith, Gordon L., and Thiele, Shawn M., Kansas Soybean Commission, "Market Development Grant -International Grains Program."

O'Neil III, Howard J., Campabadal Teran, Carlos, Smith, Gordon L., and Thiele, Shawn M., Kansas Wheat Commission, \$10,000, "Market Development Grant -IGP Institute."

O'Neil III, Howard J., Campabadal Teran, Carlos, Miller, Brandi M., and Thiele, Shawn M., US Department of Agriculture, \$15,588, "Cochran Program for Egypt Risk Management for Grains and Oilseeds -Africa and Middle East Region: Egypt."

O'Neil III, Howard J., Campabadal Teran, Carlos, Paulk, Chad B., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$2,000, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

O'Neil III, Howard J., Campabadal Teran, Carlos, Miller, Brandi M., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$4,076, "USSEC Addendum to Independent Contractor Master Agreement 18KAO2U64A."

Paulk, Chad B., Gonzalez, John M. (Animal Sciences and Industry), and **Stark, Charles**, AB Vista, \$7,830, "Using NIR to Evaluate Soybean Meal Quality."

Paulk, Chad B., and Stark, Charles, Ascus Biosciences, Inc., \$9,054, "ASCUS Product Stability."

Paulk, Chad B., and Stark, Charles, DSM Nutritional Products AG, \$10,800, "Stability of Four Commercial Phytase Sources Under Increasing Conditioning Temperatures and Conditioner Retention Time during Pelleting."

Paulk, Chad B., Intrexon Corporation, \$9,000, "Stability of Actives in a Spray Dried Powder Under Increasing Conditioning temperatures."

Paulk, Chad B., Beyer, R. Scott (Animal Sciences and Industry), and **Stark, Charles**, Jefe Nutrition, Inc., \$13,160, "Effects of Jefe Protease and Dietary Lysine on Turkey Performance."

Paulk, Chad B., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K.** (Animal Sciences and Industry), **Niederwerder, Megan** (Veterinary Diagnostic Laboratory), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), **Trinetta, Valentina** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$1,075, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Paulk, Chad B., Campabadal Teran, Carlos, O'Neil III, Howard J., Stark, Charles, and Thiele, Shawn M., US Soybean Export Council, Inc., \$2,000, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

Shi, Yong Cheng, Tate & Lyle Ingredients Americas LLC, \$131,705, "Developing Clean-label Starches with Improved Cold-storage Stability."

Shi, Yong Cheng, Haub, Mark D. (Food, Nutrition, Dietetics and Health), and **Rosenkranz, Sara** (Food, Nutrition, Dietetics and Health), US Department of Agriculture, \$360,389, "Developing Novel Starch-based Ingredients and Understanding Relationship between Structure and Digestibility of Starch."

Smith, Gordon L., and Blodgett, Paul E., General Mills, Inc., \$190,477, "Project Charge -Service Task Order #1."

Smith, Gordon L., Campabadal Teran, Carlos, O'Neil III, Howard J., and Thiele, Shawn M., Kansas Corn Commission, \$20,000, "Market Development Grant International Grains Program."

Smith, Gordon L., Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., and Thiele, Shawn M., Kansas Grain Sorghum Commission, \$30,000, "Market Development Grant - International Grains Program."

Smith, Gordon L., Campabadal Teran, Carlos, O'Neil III, Howard J., and Thiele, Shawn M., Kansas Soybean Commission, \$120,000, "Market Development Grant International Grains Program."

Smith, Gordon L., Li, Yonghui, and Zhang, Guorong (Agricultural Research Center-Hays), Kansas Wheat Commission, \$3,088, "Determining Phytochemical Profiles of Kansas Wheat Varieties to Facilitate Breeding and Marketing of Health-Beneficial Wheats."

Smith, Gordon L., Campabadal Teran, Carlos, O'Neil III, Howard J., and Thiele, Shawn M., Kansas Wheat Commission, \$20,000, "Market Development Grant -IGP Institute."

Stark, Charles, Gonzalez, John M. (Animal Sciences and Industry), and **Paulk, Chad B.**, AB Vista, \$461, "Using NIR to Evaluate Soybean Meal Quality."

Stark, Charles, and **Paulk, Chad B.**, Ascus Biosciences, Inc., \$1,006, "ASCUS Product Stability."

Stark, Charles, and **Paulk, Chad B.**, DSM Nutritional Products AG, \$7,200, "Stability of Four Commercial Phytase Sources Under Increasing Conditioning Temperatures and Conditioner Retention Time during Pelleting."

Stark, Charles, Beyer, R. Scott (Animal Sciences and Industry), and **Paulk, Chad B.**, Jefe Nutrition, Inc., \$1,680, "Effects of Jefe Protease and Dietary Lysine on Turkey Performance."

Stark, Charles, Kansas State University Foundation, \$30,000, "Jim and Carol Brown Endowed Professorship in Grain Science."

Stark, Charles, and **Drouillard, James S.** (Animal Sciences and Industry), Syngenta Crop Protection, LLC, \$173,278, "Steam Flaking."

Stark, Charles, Campabadal Teran, Carlos, O'Neil III, Howard J., Paulk, Chad B., and Thiele, Shawn M., US Soybean Export Council, Inc., \$2,000, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

Stark, Charles, Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., and Thiele, Shawn M., US Soybean Export Council, Inc., \$8,152, "USSEC Addendum to Independent Contractor Master Agreement 18KAO2U64A."

Sun, X. Susan, Henan Yizhou Investment Co. Ltd, \$34,715, "High Performance Biobased Adhesives for Carbonized Plywood."

Sun, X. Susan, and **Wang, Donghai** (Biological and Agricultural Engineering), US Department of Agriculture, \$9,000, "Acquisition of Goods and Services."

Sun, X. Susan, and **Wang, Donghai** (Biological and Agricultural Engineering), US Environmental Protection Agency, \$7,482, "Fully Utilizing Biomass for Biofuels and Chemicals."

Thiele, Julie M., and **Campabadal Teran, Carlos,** US Soybean Export Council, Inc., \$6,800, "Addendum to Independent Contractor Master Agreement: 18KA02F54C."

Thiele, Shawn M., Campabadal Teran, Carlos, O'Neil III, Howard J., and Smith, Gordon L., Kansas Corn Commission, \$20,000, "Market Development Grant International Grains Program."

Thiele, Shawn M., Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., and Smith, Gordon L., Kansas Grain Sorghum Commission, "Market Development Grant - International Grains Program."

Thiele, Shawn M., Campabadal Teran, Carlos, O'Neil III, Howard J., and Smith, Gordon L., Kansas Soybean Commission, "Market Development Grant -International Grains Program."

Thiele, Shawn M., Campabadal Teran, Carlos, O'Neil III, Howard J., and Smith, Gordon L., Kansas Wheat Commission, \$60,000, "Market Development Grant -IGP Institute."

Thiele, Shawn M., Campabadal Teran, Carlos, Miller, Brandi M., and O'Neil III, Howard J., US Department of Agriculture, \$5,196, "Cochran Program for Egypt -Risk Management for Grains and Oilseeds -Africa and Middle East Region: Egypt."

Thiele, Shawn M., Campabadal Teran, Carlos, O'Neil III, Howard J., Paulk, Chad B., and Stark, Charles, US Soybean Export Council, Inc., \$1,700, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$2,860, "Addendum to Independent Contractor Master Agreement: 18KA02F54A."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$3,000, "Addendum to Independent Contractor Master Agreement: 18KA02F54A."

Thiele, Shawn M., Campabadal Teran, Carlos, O'Neil III, Howard J., Paulk, Chad B., and Stark, Charles, US Soybean Export Council, Inc., \$2,000, "Addendum to Independent Contractor Master Agreement: 18KA02U64B."

Thiele, Shawn M., and Campabadal Teran, Carlos, US Soybean Export Council, Inc., \$4,750, "Addendum to Independent Contractor Master Agreement: 18KA2F54B."

Thiele, Shawn M., Campabadal Teran, Carlos, Miller, Brandi M., O'Neil III, Howard J., and Stark, Charles, US Soybean Export Council, Inc., \$4,076, "USSEC Addendum to Independent Contractor Master Agreement 18KAO2U64A."

HORTICULTURE AND NATURAL RESOURCES

Ahlers, Adam A., and Ricketts, Andrew M., US Fish and Wildlife Service, \$284,832, "Assessing Changes in the Spatial Distribution of Swift Fox (*Vulpes Velox*) in Western Kansas."

Baldwin (Blocksome), Carolyn E., US Environmental Protection Agency, \$15,000, "Kansas Flint Hills Smoke Management Plan."

Barden, Charles J., US Department of Agriculture, \$115,000, "Great Plains Windbreak Crop Yield Study."

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, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Bremer, Dale J., Fry, Jack D., and Patrignani, Andres (Agronomy), US Golf Association, Inc., \$51,893, "Development of Irrigation Scheduling Techniques that Conserve Water Using Soil Moisture Sensors, Reference Evapotranspiration, and Turfgrass Quality Data."

Bremer, Dale J., US Golf Association, Inc., \$76,812, "Simulation of Nitrous Oxide Emissions and Carbon Sequestration in Zoysiagrass Fairway Turf Using the DACENT Model."

Fry, Jack D., Hoyle, Jared, and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$2,641, "Turf Research."

Fry, Jack D., and Kennelly, Megan (Plant Pathology), National Turfgrass Evaluation Program, Inc., \$250, "2012 National Tall Fescue Test Ancillary Trial-Brown Patch Tolerance (TF-12-16)."

Fry, Jack D., National Turfgrass Evaluation Program, Inc., \$1,000, "2014 National Bentgrass (Fairway/Tee) Test; BTF-14-01."

Fry, Jack D., National Turfgrass Evaluation Program, Inc., \$1,500, "2014 National Bentgrass (Putting Green) Test; BTG-14-10."

Fry, Jack D., National Turfgrass Evaluation Program, Inc., \$1,500, "Research Support Agreement (Grant-in-Aid) for the 2013 National Bermudagrass Test BG-13-04."

Fry, Jack D., National Turfgrass Evaluation Program, Inc., \$2,000, "Research Support Agreement (Grant-in-Aid) for the 2013 National Zoysiagrass Test ZG-13-04."

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., Bremer, Dale J., and Patrignani, Andres (Agronomy), US Golf Association, Inc., \$38,920, "Development of Irrigation Scheduling Techniques that Conserve Water Using Soil Moisture Sensors, Reference Evapotranspiration, and Turfgrass Quality Data."

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

Griffin, Jason, Schmidt, J. Frank, Family Charitable Foundation, \$4,000, "Evaluation of Ornamental Species for the Great Plains."

Hoyle, Jared, Fry, Jack D., and Kennelly, Megan (Plant Pathology), Heart of America GCSA, \$2,563, "Turf Research."

Hoyle, Jared, Support Funds, \$47,546, "AHF Support Funds Research 26."

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 Research Extension Center), US Department of Agriculture, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

McElwain, Scott K., and Shoemaker, Candice A., Greater Manhattan Community Foundation, \$6,000, "Aesthetic Enhancement of the Visitors Experience at the Gardens through Landscape Lighting."

Miller, Chad T., Gloeckner Foundation, Inc. (Fred C.), \$10,000, "Understanding the Effects of Root Zone Temperature in Potted Dahlia Production."

Miller, Chad T., Gloeckner Foundation, Inc. (Fred C.), \$10,000, "Understanding the Effects of Root Zone Temperature in Potted Dahlia Production."

Miller, Chad T., Hock, Gaea (Communications and Agricultural Education), and **Williams, Kimberly A.**, US Department of Agriculture, \$20,000, "Online Modules for High School Teachers that Hybridize Horticulture and Science Curricula While Promoting Horticulture as a Career."

Park, Sunghun, Kansas Corn Commission, \$29,012, "Field Performance to Develop Genetically Engineered Heat and Drought Tolerant Kansas Corn."

Pliakoni, Eleni, and **Gragg, Sara E.** (Animal Sciences and Industry), Jones-Hamilton Company, \$3,308, "Efficacy of Sodium Bisulfate as a Postharvest Wash Water Sanitizer."

Pliakoni, Eleni, and **Rivard, Cary L.**, US Agency for International Development, \$312,372 (includes \$22,553 from Third Party Match (Sub)), "Capacity Building on Produce Postharvest Management in Tanzania."

Pliakoni, Eleni, Coffey, Brian (Agricultural Economics), **Nwadike, Londa S.** (Director of Cooperative Extension), **Trinetta, Valentina** (Animal Sciences and Industry), and **Yucel, Umut** (Animal Sciences and Industry), US Department of Agriculture, \$10,513, "Effective Packing Practices to Control Postharvest Disease in Small Fruit Crops."

Pliakoni, Eleni, Rivard, Cary L., and **Shoemaker, Candice A.**, US Department of Agriculture, "Urban Food Systems: Linking Inter-disciplinary Students to a Complex Food System."

Pliakoni, Eleni, Aramouni, Fadi M. (Animal Sciences and Industry), **Bates, Marlin A.** (County Agents -Metropolitan Sector), **Gragg, Sara E.** (Animal Sciences and Industry), **Nwadike, Londa S.** (Director of Cooperative Extension), **Phebus, Randall K.** (Animal Sciences and Industry), and **Rivard, Cary L.**, US Food and Drug Administration, \$400, "Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework."

Ricketts, Andrew M., and **Haukos, David A.** (Biology), US Department of the Interior, \$781,409, "Survival Rates, Habitat Selection, and Movement of Sympatric Mule Deer and White-tailed Deer in Kansas."

Ricketts, Andrew M., and **Ahlers, Adam A.**, US Fish and Wildlife Service, \$94,944, "Assessing Changes in the Spatial Distribution of Swift Fox (*Vulpes Velox*) in Western Kansas."

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, \$27,561, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

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 Area Office), US Department of Agriculture, \$12,307, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Rivard, Cary L., Pliakoni, Eleni, and Shoemaker, Candice A., US Department of Agriculture, "Urban Food Systems: Linking Inter-disciplinary Students to a Complex Food System."

Rivard, Cary L., Aramouni, Fadi M. (Animal Sciences and Industry), **Bates, Marlin A.** (County Agents -Metropolitan Sector), **Gragg, Sara E.** (Animal Sciences and Industry), **Nwadike, Londa S.** (Director of Cooperative Extension), **Phebus, Randall K.** (Animal Sciences and Industry), and **Pliakoni, Eleni,** US Food and Drug Administration, \$2,000, "Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework."

Sharp, Ryan L., The Nature Conservancy, \$42,658, "Understanding Visitor Use and Developing Visitor Use Monitoring Protocols for The Nature Conservancy Properties in Kansas."

Sharp, Ryan L., and Skibins, Jeffrey, US Department of the Interior, \$19,946, "Evaluating Visitor and Manager Preferences for the Shenandoah National Park Visitor Mobile App."

Sharp, Ryan L., and Skibins, Jeffrey, US Department of the Interior, \$63,000, "Quantifying the Relationship between Visitor Use, and Resource and Social Conditions at Katmai National Park & Preserve and Lake Clark National Park & Preserve."

Sharp, Ryan L., US Department of the Interior, \$94,031, "Visitor Use Study -Extended Day Use on Corridor Trails, Grand Canyon National Park."

Sharp, Ryan L., US Department of the Interior, \$74,998, "Visitor Use Study to Determine Relationship between Current Conditions, Travel Patterns, Visitor Thresholds, and Ferry Services at Cumberland Island National Seashore."

Shoemaker, Candice A., and McElwain, Scott K., Greater Manhattan Community Foundation, "Aesthetic Enhancement of the Visitors Experience at the Gardens through Landscape Lighting."

Shoemaker, Candice A., Support Funds, \$1,000, "AHF Multi Sponsor Extension 0."

Shoemaker, Candice A., Support Funds, \$67,500, "AHF Support Funds Research 0."

Shoemaker, Candice A., Pliakoni, Eleni, and Rivard, Cary L., US Department of Agriculture, \$20,000, "Urban Food Systems: Linking Inter-disciplinary Students to a Complex Food System."

Skibins, Jeffrey, and Sharp, Ryan L., US Department of the Interior, \$19,946, "Evaluating Visitor and Manager Preferences for the Shenandoah National Park Visitor Mobile App."

Skibins, Jeffrey, and Sharp, Ryan L., US Department of the Interior, \$63,000, "Quantifying the Relationship between Visitor Use, and Resource and Social Conditions at Katmai National Park & Preserve and Lake Clark National Park & Preserve."

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, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Williams, Kimberly A., Gloeckner Foundation, Inc. (Fred C.), \$10,000, "Updates to Graphical Tracking Guidelines for New Poinsettia Cultivars."

Williams, Kimberly A., Gloeckner Foundation, Inc. (Fred C.), \$8,000, "Updates to Graphical Tracking Guidelines for New Poinsettia Cultivars."

Williams, Kimberly A., Hock, Gaea (Communications and Agricultural Education), and **Miller, Chad T.**, US Department of Agriculture, \$20,000, "Online Modules for High School Teachers that Hybridize Horticulture and Science Curricula While Promoting Horticulture as a Career."

INTERNATIONAL AGRICULTURAL PROGRAMS

Lilja, Nina K., Amanor-Boadu, Vincent R. (Agricultural Economics), **Barkley, Andrew P.** (Agricultural Economics), **Featherstone, Allen M.** (Agricultural Economics), and **Schwab, Benjamin B.** (Agricultural Economics), US Agency for International Development, "BHEARD Program: Uganda."

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., Pagadala, Venkata (Dean of Agriculture and Director of AES), and **Pierzynski, Gary M.** (Agronomy), US Agency for International Development, "Innovation Lab on Sustainable Intensification."

Lilja, Nina K., Amanor-Boadu, Vincent R. (Agricultural Economics), and **Featherstone, Allen M.** (Agricultural Economics), US Agency for International Development, "Strengthening the Capacity of the Department of Agribusiness and Natural Resource Economics (DANRE) in the College of Agricultural and Environmental Sciences (CAES), Makerere University."

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

Devlin, Daniel L., City of Hays, KS, \$9,000, "Storm Water Educational Outreach Efforts."

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., Middendorf, Gerad D. (Sociology, Anthropology, and Social Work), **Presley, DeAnn R.** (Agronomy), **Rice, Charles W.** (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Shoup, Douglas E.** (Southeast Area Office), **Tomlinson, Peter J.** (Agronomy), and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, \$760,957, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Devlin, Daniel L., Aguilar, Jonathan P. (Southwest Area Office), **Foster, Anserd J.** (Southwest Area Office), **Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya** (Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **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, \$55,839 (includes \$2,000 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$43,446, "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, \$151,561 (includes \$41,224 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), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$4,950, "Development of Sorghum Parental Lines with Enhanced Drought and Cold Tolerance."

Aiken, Robert M., The Land Institute, \$1,000, "Water Productivity and Genetic Variation of *Silghium Integrifolium*."

Aiken, Robert M., US Department of Agriculture, \$35,330, "Drought Tolerance and Water Use Efficiency in Biomass Sorghum Under Water Limited Conditions."

Aiken, Robert M., Aguilar, Jonathan P. (Southwest Area Office), **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., 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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$20,052, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Lamm, Freddie R., and O'Brien, Daniel M. (Northwest Area Office), Kansas Corn Commission, \$14,250, "Efficient Irrigation Technologies for Corn -A Comparison."

Lamm, Freddie R., O'Brien, Daniel M. (Northwest Area Office), and **Schlegel, Alan J.** (Southwest Research Extension Center), Kansas Corn Commission, \$13,000, "Working with Less Water for Corn Production."

Lamm, Freddie R., Netafim Ltd, \$25,000, "Maize Crop Model Validation on NetBeat Work Plan for KSU-NWREC, Colby, Kansas."

Lamm, Freddie R., Aguilar, Jonathan P. (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J.** (Southwest Area Office), **Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya**(Southwest Research Extension Center), **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, \$20,939 (includes \$750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$36,762, "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."

Kane, Mary R., US Department of Education, \$301,708, "FFA-YF/YFW Organization."

PLANT BIOTECHNOLOGY CENTER

Akhunova, Alina, Akhunov, Eduard D. (Plant Pathology), and **Trick, Harold N.** (Plant Pathology), Kansas Wheat Commission, \$15,393, "Wheat Gene Editing Platform (WGEP) for Improving Kansas Wheat."

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., Akhunova, Alina (Plant Biotechnology Center), and **Trick, Harold N.**, Kansas Wheat Commission, \$61,572, "Wheat Gene Editing Platform (WGEP) for Improving Kansas Wheat."

Akhunov, Eduard D., and Trick, Harold N., US Department of Agriculture, \$254,600, "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 Defense, \$249,966, "Transcriptome Engineering for Enhanced Agronomic Defense, Response and Performance."

DeWolf, Erick D., Knapp, Mary C. (Agronomy), **Lollato, Romulo P.** (Agronomy), and **Redmond, Christopher A.** (Agronomy), Kansas Crop Improvement Association, \$7,600, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

DeWolf, Erick D., Knapp, Mary C. (Agronomy), **Lollato, Romulo P.** (Agronomy), and **Redmond, Christopher A.** (Agronomy), Kansas Crop Improvement Association, \$7,600, "Kansas Wheat Dashboard: Information about Emerging Stripe Rust Epidemics and Other Threats to Wheat Production."

DeWolf, Erick D., Lin, Xiaomao (Agronomy), **Lollato, Romulo P.** (Agronomy), **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Crop Improvement Association, "Reducing the Impact of Fusarium Head Blight."

DeWolf, Erick D., Friebe, Bernd, Fritz, Allan K. (Agronomy), **Gill, Bikram S.**, and **Zhang, Guorong** (Agricultural Research Center-Hays), Kansas Wheat Commission, \$25,600, "Disease Phenotyping: Determining the Reaction of Wheat Lines to Important Diseases."

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 Research Extension Center), US Department of Agriculture, \$12,307, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

DeWolf, Erick D., US Department of Agriculture, \$86,176, "Prediction Models and Improved Pre-Harvest Estimates of Deoxynivalenol."

Draper, Martin A., Kennelly, Megan, and Todd, Timothy C., Support Funds, \$22,500, "APP Support Funds Research 52."

Draper, Martin A., US Department of Agriculture, \$50,000, "Wheat Rust Resistance Research."

Fellers, John P., Fritz, Allan K. (Agronomy), and **Trick, Harold N.**, Kansas Wheat Commission, "Biotech Approaches for Trait Enhancement in Wheat."

Friebe, Bernd, and Koo, Dalhoe, Kansas Wheat Commission, \$20,600, "Chromosome Engineering and Development of Wheat Germplasm Resistant to Barley Yellow Dwarf Virus."

Friebe, Bernd, DeWolf, Erick D., Fritz, Allan K. (Agronomy), **Gill, Bikram S.**, and **Zhang, Guorong** (Agricultural Research Center-Hays), Kansas Wheat Commission, "Disease Phenotyping: Determining the Reaction of Wheat Lines to Important Diseases."

Friebe, Bernd, and Gill, Bikram S., US Department of Agriculture, \$9,735, "New Sources of Resistance to FHB and DON in Wheat."

Gill, Bikram S., Bayer CropScience, LP, \$50,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., Heartland Plant Innovations, Inc., \$50,000, "Partner Agreement for I/UCR."

Gill, Bikram S., Kansas Department of Agriculture, \$160,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., Kansas State University Foundation, \$100,000, "Bikram Gill Endowed Chair in Wheat Genetics."

Gill, Bikram S., Kansas Wheat Alliance, Inc., \$50,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., DeWolf, Erick D., Friebe, Bernd, Fritz, Allan K. (Agronomy), and **Zhang, Guorong** (Agricultural Research Center-Hays), Kansas Wheat Commission, "Disease Phenotyping: Determining the Reaction of Wheat Lines to Important Diseases."

Gill, Bikram S., Lin, Guifang, Liu, Sanzhen, and Wilson, Duane L., Kansas Wheat Commission, "New Technology for Rapid Molecular Mapping and Deployment of Yellow Rust Resistance in Kansas Wheat."

Gill, Bikram S., Kansas Wheat Commission, \$50,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., and **Poland, Jesse A.**, National Science Foundation, \$46,250, "I/UCRC: Collaborative Research: Wheat Genetics Resource Center: A Public-Private Consortium."

Gill, Bikram S., Pioneer Hi-Bred International, Inc., \$50,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., Syngenta Seeds, Inc., \$50,000, "Partner Agreement for I/UCRC."

Gill, Bikram S., and **Friebe, Bernd**, US Department of Agriculture, \$9,735, "New Sources of Resistance to FHB and DON in Wheat."

Kennelly, Megan, Fry, Jack D. (Horticulture and Natural Resources), and **Hoyle, Jared** (Horticulture and Natural Resources), Heart of America GCSA, \$2,563, "Turf Research."

Kennelly, Megan, and Fry, Jack D. (Horticulture and Natural Resources), National Turfgrass Evaluation Program, Inc., \$250, "2012 National Tall Fescue Test Ancillary Trial-Brown Patch Tolerance (TF-12-16)."

Kennelly, Megan, US Department of Agriculture, \$2,700, "Diversify with Lavender: Resources, Training, Networks for Commercial Lavender Producers."

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 Research Extension Center), US Department of Agriculture, \$19,692, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

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, Kansas Wheat Commission, \$20,600, "Chromosome Engineering and Development of Wheat Germplasm Resistant to Barley Yellow Dwarf Virus."

Leslie, John F., International Institute for Tropical Agriculture, \$125,367, "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."

Leslie, John F., and Toomajian, Christopher, US Department of Agriculture, \$4,725, "Population Genomics to Identify Fusarium graminearum Genes to Target."

Lin, Guifang, Gill, Bikram S., Liu, Sanzhen, and Wilson, Duane L., Kansas Wheat Commission, "New Technology for Rapid Molecular Mapping and Deployment of Yellow Rust Resistance in Kansas Wheat."

Little, Christopher R., Roozeboom, Kraig L. (Agronomy), **SV, Krishna Jagadish** (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$9,770, "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), **SV, Krishna**

Jagadish (Agronomy), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$4,950, "Development of Sorghum Parental Lines with Enhanced Drought and Cold Tolerance."

Little, Christopher R., Perumal, Ramasamy (Agricultural Research Center-Hays), and **Tesso, Tesfaye** (Agronomy), Kansas Grain Sorghum Commission, \$36,080, "Germplasm Screening, host interactions, and lodging resilience for stalk rot diseases in Kansas."

Little, Christopher R., and Kim, Sungo (Electrical and Computer Engineering), Kansas Soybean Commission, \$10,000, "Plasma-activated Irrigation for Improving Soybean Development and Disease Tolerance."

Little, Christopher R., and Adee, Eric A. (Agronomy), Kansas Soybean Commission, \$32,980, "SDS: Resistance Screening, ILeVO Treatment, Survival on Corn Residue, and Pathogen Variability."

Little, Christopher R., Roozeboom, Kraig L. (Agronomy), **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$8,651, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Little, Christopher R., North Central Soybean Research Program, \$32,350, "Seedling Diseases: Biology, Management and Education."

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

Liu, Sanzhen, and Todd, Richard B., Kansas City Area Life Sciences Institute, "Linking Regulation of Primary and Secondary Metabolism in Fungi for Improved Animal and Human Health."

Liu, Sanzhen, Gill, Bikram S., Lin, Guifang, and Wilson, Duane L., Kansas Wheat Commission, \$38,000, "New Technology for Rapid Molecular Mapping and Deployment of Yellow Rust Resistance in Kansas Wheat."

Liu, Sanzhen, US Department of Agriculture, \$75,000, "Improvement of Hard Winter Wheat for FHB Resistance."

Nouri, Shahideh, Johnson, Wendy (Entomology), **McCornack, Brian P.** (Entomology), **Poland, Jesse A., and Smith, C. Michael** (Entomology), Kansas Wheat Commission, \$23,500, "Integrative and Innovative Approaches to Diminish Barley Yellow Dwarf Epidemics in Kansas Wheat."

Poland, Jesse A., Bill and Melinda Gates Foundation, \$275,122, "Delivering Genetic Gain in Wheat."

Poland, Jesse A., Johnson, Wendy (Entomology), **McCornack, Brian P.** (Entomology), **Nouri, Shahideh, and Smith, C. Michael** (Entomology), Kansas Wheat Commission, \$47,000, "Integrative and Innovative Approaches to Diminish Barley Yellow Dwarf Epidemics in Kansas Wheat."

Poland, Jesse A., Monsanto Company, \$52,308, "Monsanto Beachell-Borlaug International Scholars Program (Ms. Emily Delorean's PhD Study)."

Poland, Jesse A., and **Neilsen, Mitchell L.** (Computer Science), National Science Foundation, \$42,500, "BREAD PHENO: High-Throughput Phenotyping with Smart Phones. #phenoApp."

Poland, Jesse A., and **Gill, Bikram S.**, National Science Foundation, \$46,250, "I/UCRC: Collaborative Research: Wheat Genetics Resource Center: A Public-Private Consortium."

Poland, Jesse A., US Agency for International Development, \$807,817, "Rapid Development of Climate Resilient Wheat Varieties for South Asia using Genomic Selection."

Poland, Jesse A., US Department of Agriculture, \$335,000, "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, \$86,514, "A Reference Phenotyping System for Energy Sorghum."

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

Stack, James P., US Department of Agriculture, \$44,000, "Regional Center Plant Diagnostics Facility."

Todd, Richard B., and **Liu, Sanzhen**, Kansas City Area Life Sciences Institute, \$50,000, "Linking Regulation of Primary and Secondary Metabolism in Fungi for Improved Animal and Human Health."

Todd, Richard B., US Department of Health and Human Services, \$364,935, "A New Mediator of Fungal Nitrogen Metabolite Repression."

Todd, Timothy C., **Schapaugh Jr, William T.** (Agronomy), and **Trick, Harold N.**, Kansas Soybean Commission, \$15,152, "Enhancement of Soybean through Genetic Engineering."

Todd, Timothy C., **Schapaugh Jr, William T.** (Agronomy), and **Trick, Harold N.**, Kansas Soybean Commission, \$58,511, "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."

Toomajian, Christopher, and **Leslie, John F.**, US Department of Agriculture, \$42,522, "Population Genomics to Identify Fusarium graminearum Genes to Target."

Trick, Harold N., **Schapaugh Jr, William T.** (Agronomy), and **Todd, Timothy C.**, Kansas Soybean Commission, \$56,822, "Enhancement of Soybean through Genetic Engineering."

Trick, Harold N., **Schapaugh Jr, William T.** (Agronomy), and **Todd, Timothy C.**, Kansas Soybean Commission, \$26,596, "Integrating Germplasm Evaluation, Genetic Engineering, Breeding and High-Throughput Phenotyping to Improve Sustainability of Soybean Production."

Trick, Harold N., Fellers, John P., and Fritz, Allan K. (Agronomy), Kansas Wheat Commission, \$40,000, "Biotech Approaches for Trait Enhancement in Wheat."

Trick, Harold N., Akhunov, Eduard D., and Akhunova, Alina (Plant Biotechnology Center), Kansas Wheat Commission, \$25,655, "Wheat Gene Editing Platform (WGEP) for Improving Kansas Wheat."

Trick, Harold N., US Department of Agriculture, \$57,672, "A Centralized Wheat Transformation Facility for the Fusarium Community."

Trick, Harold N., and Akhunov, Eduard D., US Department of Agriculture, \$80,400, "Genome Editing for Improving Wheat Yield and Yield-Related Traits."

Wilson, Duane L., Gill, Bikram S., Lin, Guifang, and Liu, Sanzhen, Kansas Wheat Commission, "New Technology for Rapid Molecular Mapping and Deployment of Yellow Rust Resistance in Kansas Wheat."

SOUTHEAST AGRICULTURAL RESEARCH CENTER

Sassenrath, Gretchen F., Cytozyme Laboratories, Inc., \$7,000, "Testing Additives for Yield Improvement in Row Crops."

Sassenrath, Gretchen F., Haag, Lucas A. (Northwest Area Office), **Rice, Charles W.** (Agronomy), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Corn Commission, \$2,450, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Corn in Kansas."

Sassenrath, Gretchen F., DeWolf, Erick D. (Plant Pathology), **Lin, Xiaomao** (Agronomy), **Lollato, Romulo P.** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Crop Improvement Association, \$20,890, "Reducing the Impact of Fusarium Head Blight."

Sassenrath, Gretchen F., Rice, Charles W. (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$7,386, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Soybean in Kansas."

Sassenrath, Gretchen F., and Ciampitti, Ignacio (Agronomy), Kansas Soybean Commission, \$5,984, "Improving Soybean Yield in the Double Crop Soybean System."

Sassenrath, Gretchen F., Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$12,977, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Sassenrath, Gretchen F., Farney, Jaymelynn K. (Southeast Area Office), and **Kulesza, Stacey E.** (Civil Engineering), US Department of Agriculture, \$39,992, "Improving Soil Health and Profitability with Cover Crops and Precision Conservation."

SOUTHWEST RESEARCH EXTENSION CENTER

Gillen, Robert L., Support Funds, \$73,476, "ASW Support Funds Research 37."

Holman, Johnathon D., Advanta US, Inc., \$10,880, "Forage Variety Testing."

Holman, Johnathon D., Indigo Ag, Inc., \$113,250, "Work Order No. 17-01."

Holman, Johnathon D., Support Funds, \$51,680, "ASW Testing of Forage Cultivars."

Holman, Johnathon D., and **Obour, Augustine K.** (Agricultural Research Center-Hays), US Department of Agriculture, \$12,483, "Cover Crops to Increase Water Infiltration in Dryland and Irrigated Systems in Western Kansas."

Holman, Johnathon D., **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), **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.**, **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$16,710, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Kisekka, Isaya, **Aguilar, Jonathan P.** (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J.** (Southwest Area Office), **Golden, Bill B.** (Agricultural Economics), **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$76,778 (includes \$2,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

Schlegel, Alan J., **Lamm, Freddie R.** (Northwest Research Extension Center), and **O'Brien, Daniel M.** (Northwest Area Office), Kansas Corn Commission, \$19,500, "Working with Less Water for Corn Production."

Schlegel, Alan J., **Aguilar, Jonathan P.** (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J.** (Southwest Area Office), **Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya**, **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$20,939 (includes \$750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

Schlegel, Alan J., **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.**, **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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$13,368, "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, \$4,923, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

COLLEGE OF ARCHITECTURE, PLANNING AND DESIGN

LANDSCAPE ARCHITECTURE/REGIONAL AND COMMUNITY PLANNING

Beamish, Anne E., and Canfield, Jessica, City of Manhattan, KS, \$1,250, "Warner Park Master Plan."

Canfield, Jessica, and Beamish, Anne E., City of Manhattan, KS, \$1,250, "Warner Park Master Plan."

Carver, Rial T., and Kim, Hyung Jin, Cornell University, "Neighborhood Differences in Access to School, Food, and Healthcare Along an Urban to Rural Gradient. (Rial Carver, Student)."

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, \$6,995 (includes \$1,903 from In-Kind), "Kansas Water Resources Research Institute 2016."

Kim, Hyung Jin, and Carver, Rial T., Cornell University, \$10,000, "Neighborhood Differences in Access to School, Food, and Healthcare Along an Urban to Rural Gradient. (Rial Carver, Student)."

Newmark, Gregory, US Department of Transportation, \$11,500, "Dwight David Eisenhower Transportation Fellowship Program Graduate Fellowship (DDETFP) Student: Rachel Foss."

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

COLLEGE OF ARTS AND SCIENCES

BIOCHEMISTRY

Davis, Lawrence C., Erickson, Larry E. (Center for Hazardous Substance Research), **Hettiarachchi, Ganga M.** (Agronomy), and **Roozeboom, Kraig L.** (Agronomy), North Atlantic Treaty Organization (NATO), \$20,309 (includes \$5,549 from In-Kind Contribution - Erickson support, and \$5,636 from In-Kind Contribution -Erickson's Effort), "New Phytotechnology for Cleaning Contaminated Military Sites."

Durrett, Timothy P., Morris, Geoffrey (Agronomy), **Schrick, Kathrin** (Biology), **SV, Krishna Jagadish** (Agronomy), and **Welti, Ruth** (Biology), National Science Foundation, \$49,682, "MRI:

Acquisition of an Electrospray Ionization Triple Quadrupole Mass Spectrometer with Ion Mobility Spectrometry for Improved Plant Lipidomics."

Durrett, Timothy P., United Soybean Board, \$75,250, "Blocking Production of Nonmetabolizable Carbohydrates by Enhancing Stable Oil Levels in Developing Soybean Seeds."

Garcia, Brandon L., US Department of Health and Human Services, \$238,450, "Classical Complement Pathway Evasion Mechanisms of Lyme Disease Spirochetes."

Garcia, Brandon L., US Department of Health and Human Services, \$225,000, "Development of Small Molecule Inhibitors of the Classical Complement Pathway."

Geisbrecht, Brian V., and **Li, Ping** (Chemistry), US Department of Health and Human Services, \$56,588, "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, \$231,000, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Geisbrecht, Brian V., US Department of Health and Human Services, \$150,000, "The Role of gC1qR in Vascular Permeability and Angioedema."

Geisbrecht, Erika R., Kansas Board of Regents, \$25,000, "Toll Signaling in Drosophila Muscle Damage."

Gorman, Maureen J., National Science Foundation, \$11,920, "Collaborative Research: Mechanisms of Iron Transport in Insects."

Kanost, Michael R., US Department of Health and Human Services, \$39,497, "Proteinase Systems in Insect Hemolymph."

Klebba, Phillip E., Kansas State University Foundation, \$76,366, "Cancer Center Research Core."

Ng, Ho Leung, Eureka Therapeutics, \$121,428, "Eureka Therapeutics."

Ng, Ho Leung, National Science Foundation, \$216,159, "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, \$24,058, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Ng, Ho Leung, US Department of Health and Human Services, \$70,678, "STAT3, G6PD and TrxR as Underlying Mechanisms for Antitumor Responses to Hirsutinolides."

Prakash, Om, **Ng, Ho Leung**, and **Park, Yoonseong** (Entomology), US Department of Health and Human Services, \$48,115, "Discovery of GPCR-Targeted Insecticides for Malaria Mosquito Control."

Prakash, Om, and Zolkiewski, Michal, US Department of Health and Human Services, \$76,400, "Multiscale Enhanced Sampling of Disordered Proteins."

Prakash, Om, Geisbrecht, Brian V., and Tomich, John M., US Department of Health and Human Services, \$28,875, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Tomich, John M., Kansas State University Foundation, \$96,000, "IR Detection."

Tomich, John M., Geisbrecht, Brian V., and Prakash, Om, US Department of Health and Human Services, \$28,875, "Novel Staphylococcus Inhibitors of Neutrophil Granule Enzymes."

Zolkiewski, Michal, and Prakash, Om, US Department of Health and Human Services, \$76,400, "Multiscale Enhanced Sampling of Disordered Proteins."

BIOLOGY

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."

Briggs, John M., and Horne, Eva A., National Science Foundation, \$112,468, "Infrastructure Improvements in Support of Grassland and Native Grazer Research at Konza Prairie Biological Station."

Chapes, Stephen K., National Aeronautics and Space Administration, \$97,189, "Impact of Spaceflight on Primary and Secondary Antibody Responses."

Chapes, Stephen K., and Fleming, Sherry D., US Department of Health and Human Services, \$2,147, "Undergraduate Coordinator Office -KINBRE."

Clem, Rollie J., Kansas State University Foundation, \$21,370, "Mary L. Vanier Endowed Professorship."

Dodds, Walter K., Rice, Charles W. (Agronomy), and Zeglin, Lydia H., Kansas Board of Regents, \$96,088, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Dodds, Walter K., and Gido, Keith B., National Science Foundation, \$46,884, "Collaborative Research: Stream Consumers and Lotic Ecosystem Rates (SCALER): Scaling from Centimeters to Continents."

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, \$144,112, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

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

Fleming, Sherry D., Kansas Board of Regents, \$24,992, "Sex Difference in Intestinal Ischemia/Reperfusion."

Fleming, Sherry D., and **Chapes, Stephen K.**, US Department of Health and Human Services, \$40,791, "Undergraduate Coordinator Office -KINBRE."

Gido, Keith B., and **Dodds, Walter K.**, National Science Foundation, \$20,093, "Collaborative Research: Stream Consumers and Lotic Ecosystem Rates (SCALER): Scaling from Centimeters to Continents."

Gido, Keith B., and **Haukos, David A.**, US Department of the Interior, \$18,574, "Multi-scale Factors Influencing Occurrences of Topeka Shiner (*Notropis topeka*) in the Flint Hills, Kansas."

Gido, Keith B., US Department of the Interior, \$454,420, "Population Dynamics, Mobility and Trophic Dynamics of Endangered Fishes in the San Juan River and Adjoining Lake Powell Complex."

Govind, Revathi, US Department of Health and Human Services, \$70,087, "Curtailling Virulence of *Clostridium Difficile*."

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 Agriculture, \$244,244, "Lesser Prairie-Chicken and Grassland Response to Intensive Wildfire in the Mixed-Grass Prairie."

Haukos, David A., US Department of Agriculture, \$436,714, "Use of Grazing Management and Prescribed Fire for Conservation of Lesser Prairie Chickens."

Haukos, David A., US Department of the Interior, \$191,853, "Assessment of Resident Canada Goose Management in Kansas."

Haukos, David A., and **Hope, Andrew**, US Department of the Interior, "Climate Change Science in the Arctic: Temporal and Spatial Diversification among Arctic Shrews and their Parasites across the Northern Continents."

Haukos, David A., and **Gido, Keith B.**, US Department of the Interior, \$978, "Multi-scale Factors Influencing Occurrences of Topeka Shiner (*Notropis topeka*) in the Flint Hills, Kansas."

Haukos, David A., and **Ricketts, Andrew M.** (Horticulture and Natural Resources), US Department of the Interior, \$1,172,113, "Survival Rates, Habitat Selection, and Movement of Sympatric Mule Deer and White-tailed Deer in Kansas."

Herman, Michael A., **Joern, Anthony**, **Johnson, Loretta C.**, and **Sandercock, Brett K.**, US Department of Education, \$19,276, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Hope, Andrew, and Haukos, David A., US Department of the Interior, \$9,357, "Climate Change Science in the Arctic: Temporal and Spatial Diversification among Arctic Shrews and their Parasites across the Northern Continents."

Horne, Eva A., and Briggs, John M., National Science Foundation, \$112,468, "Infrastructure Improvements in Support of Grassland and Native Grazer Research at Konza Prairie Biological Station."

Joern, Anthony, Herman, Michael A., Johnson, Loretta C., and Sandercock, Brett K., US Department of Education, \$19,276, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Johnson, Loretta C., Herman, Michael A., Joern, Anthony, and Sandercock, Brett K., US Department of Education, \$65,242, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Jumpponen, Ari M., US Department of Agriculture, \$64,293, "Microbiomes and Their Metaproteome-Inferred Functions in Four Switchgrass Varieties Cultivated Under Two Densities For Soil Conservation."

Jumpponen, Ari M., US Department of Energy, \$12,449, "Phenotypic Response of the Soil Microbiome to Environmental Perturbations."

McDonald, Jocelyn A., National Science Foundation, \$105,000, "Phosphatase Control of Collective Cell Migration during Development."

McDonald, Jocelyn A., National Science Foundation, \$176,539, "R11 Track-4: Dynamic Live Imaging and Manipulation of Migrating Collectives Inside Tissues."

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., National Science Foundation, \$49,000, "MEETING: Phys-Fest 2, Holden Arboretum, July 15-19, 2018."

Olson, Bradley J., National Science Foundation, \$900,000, "Co-option of Cell Cycle Regulation for Multicellular Evolution."

Platt, Thomas G., and Hansen, Ryan R. (Chemical Engineering), National Science Foundation, \$2,400, "PAPM EAGER: Microwell Array Platform for High-Throughput Screening and Discovery of Microbial Interactions."

Roelofs, Jeroen, US Department of Health and Human Services, \$330,000, "Mechanism of Degradation of the Proteasome through Autophagy."

Sandercock, Brett K., Herman, Michael A., Joern, Anthony, and Johnson, Loretta C., US Department of Education, \$44,483, "Integrative Graduate Training for New Frontiers in Ecology, Evolution, and Genomics."

Schrick, Kathrin, Durrett, Timothy P. (Biochemistry), **Morris, Geoffrey** (Agronomy), **SV, Krishna Jagadish** (Agronomy), and **Welti, Ruth**, National Science Foundation, \$49,682, "MRI: Acquisition of an Electrospray Ionization Triple Quadrupole Mass Spectrometer with Ion Mobility Spectrometry for Improved Plant Lipidomics."

Spooner, Brian S., Kansas State University Foundation, \$142,299, "Biology Research Career Development Core."

Spooner, Brian S., Kansas State University Foundation, \$60,450, "Cancer Center Research Awards."

Spooner, Brian S., Support Funds, \$18,630, "Biology Vanier Endowed Chair."

Spooner, Brian S., Support Funds, \$12,035, "OBO Biology Student Research Awards."

Tobler, Michi, US Department of Defense, \$43,231, "A Comparative Approach to Understanding the Physiological Effects and Processing of Hydrogen Sulfide."

Veeman, Michael, US Department of Health and Human Services, \$311,250, "Morphogenetic Effector Networks in Ciona Notochord."

Wallace, Nicholas, US Department of Defense, \$510,231, "Cutaneous Human Papillomaviruses as Co-Factors in Non-Melanoma Skin Cancer."

Welti, Ruth, Durrett, Timothy P. (Biochemistry), **Morris, Geoffrey** (Agronomy), **Schrick, Kathrin**, and **SV, Krishna Jagadish** (Agronomy), National Science Foundation, \$298,094, "MRI: Acquisition of an Electrospray Ionization Triple Quadrupole Mass Spectrometer with Ion Mobility Spectrometry for Improved Plant Lipidomics."

Welti, Ruth, US Department of Agriculture, \$32,000, "Polar Lipid Profile Analysis."

Yang, Zhilong, Comer, Jeffrey R. (Anatomy and Physiology), **McGill, Jodi L.** (Diagnostic Medicine/Pathobiology), and **Tamura, Masaaki** (Anatomy and Physiology), Kansas State University Foundation, \$5,250, "2017 Innovation Research Award."

Yang, Zhilong, US Department of Health and Human Services, \$183,000, "Genomic and Chemical Approaches for Developing Novel Anti-poxvirus Strategies."

Yang, Zhilong, US Department of Health and Human Services, \$225,000, "Selective Translation Conferred by the Poly(A) Leader of Vaccinia Virus mRNAs."

Zeglin, Lydia H., Dodds, Walter K., and **Rice, Charles W.** (Agronomy), Kansas Board of Regents, \$48,044, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems Across Kansas."

Zeglin, Lydia H., National Science Foundation, \$200,000, "RAPID: Are Biogeochemical Responses Linked to the Microbial Composition of a Defined Nutrient and Microbial Input to a Large River?"

Zeglin, Lydia H., Dodds, Walter K., and **Rice, Charles W.** (Agronomy), National Science Foundation, \$72,056, "RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems (MAPS) Mediating Sustainability: An Observational and Experimental Network Across Kansas."

Zinovyeva, Anna Y., US Department of Health and Human Services, \$375,807, "Molecular Control of MicroRNA Gene-regulatory Activity in vivo."

CHEMISTRY

Aakeroy, Christer B., Boehringer Ingelheim Vetmedica, Inc., \$15,000, "Development of Structural Informatics Tools for Solid Form Risk Assessment and Co-crystal Design."

Aakeroy, Christer B., Bossmann, Stefan, Gadzikwa, Tendai, Hansen, Ryan R. (Chemical Engineering), **Higgins, Daniel A., Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H., Li, Jun, Li, Ping, McLaurin, Emily, and Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Aakeroy, Christer B., US Department of Defense, \$92,500, "Theory and Experiment of Cocrystals: Principles, Synthesis and Properties."

Aikens, Christine M., Andresen, Daniel A. (Computer Science), **Comer, Jeffrey R.** (Anatomy and Physiology), **Liu, Bin** (Chemical Engineering), **Schmit, Jeremy D.** (Physics), and **Smith, Paul E.**, National Science Foundation, \$59,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

Aikens, Christine M., US Department of Energy, \$119,625, "Elucidating the Mechanism of Plasmon-Mediated Photocatalysis using Electron Dynamics Calculations."

Bossmann, Stefan, and Sorensen, Christopher M. (Physics), Hubert Barry Hemsworth, \$158,187, "Detonation Graphene Project."

Bossmann, Stefan, Kansas Department of Transportation, \$49,750, "Do Polyepoxy/Polyisocyanate Composite Resins for Concrete Protection Perform Better than Either of Their Components?"

Bossmann, Stefan, and Culbertson, Christopher T., National Science Foundation, \$162,500, "A Point-of-Care Device for Diagnosis and Management of Pulmonary Disease."

Bossmann, Stefan, and Culbertson, Christopher T., National Science Foundation, \$17,230, "Integrating Optical Fiber Bridges in Microfluidic Devices for Ultrasensitive Analyses of Biomarkers in Single Cells."

Bossmann, Stefan, Aakeroy, Christer B., Gadzikwa, Tendai, Hansen, Ryan R. (Chemical Engineering), **Higgins, Daniel A., Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H., Li, Jun, Li, Ping, McLaurin, Emily, and Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Bossmann, Stefan, Andresen, Daniel A. (Computer Science), **Bailey, Heather R.** (Psychological Sciences), **Cain, Mary E.** (Psychological Sciences), **Kirkpatrick, Kimberly** (Psychological Sciences), **Loschky, Lester C.** (Psychological Sciences), and **Pickens II, Charles** (Psychological Sciences), US Department of Health and Human Services, \$86,914, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Bossmann, Stefan, US Department of Health and Human Services, \$150,000, "HTS for Copper-Activated Inhibitors Against MRSA."

Culbertson, Christopher T., and **Bossmann, Stefan**, National Science Foundation, \$162,500, "A Point-of-Care Device for Diagnosis and Management of Pulmonary Disease."

Culbertson, Christopher T., and **Bossmann, Stefan**, National Science Foundation, \$17,230, "Integrating Optical Fiber Bridges in Microfluidic Devices for Ultrasensitive Analyses of Biomarkers in Single Cells."

Gadzikwa, Tendai, Aakeroy, Christer B., Bossmann, Stefan, Hansen, Ryan R. (Chemical Engineering), **Higgins, Daniel A., Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H., Li, Jun, Li, Ping, McLaurin, Emily**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Higgins, Daniel A., and **Brokesh, Edwin L.** (Biological and Agricultural Engineering), Kansas Soybean Commission, \$4,161, "K-State Biodiesel Initiative Workshop Planning and Fuel and WVO Handling, Storage, and Quality Monitoring Project."

Higgins, Daniel A., Kansas State University Foundation, \$83,180, "Center for Basic Cancer Research: Fraternal Order of Eagles Fund."

Higgins, Daniel A., Aakeroy, Christer B., Bossmann, Stefan, Gadzikwa, Tendai, Hansen, Ryan R. (Chemical Engineering), **Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H., Li, Jun, Li, Ping, McLaurin, Emily**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Higgins, Daniel A., and **Ito, Takashi**, US Department of Energy, \$68,770, "SISGR: Molecular-Level Investigation of Diffusion Behaviors within Cylindrical Nanoscale Pores."

Hua, Duy H., National Science Foundation, \$401,450, "Catalytic Asymmetric Oxidation Reactions by Chiral-supported Bimetallic Nanoclusters."

Hua, Duy H., Aakeroy, Christer B., Bossmann, Stefan, Gadzikwa, Tendai, Hansen, Ryan R. (Chemical Engineering), **Higgins, Daniel A., Hohn, Keith L.** (Chemical Engineering), **Li, Jun, Li, Ping, McLaurin, Emily**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Hua, Duy H., US Department of Health and Human Services, \$173,192, "Development of Patented Tricyclic Pyrone Molecules for the Treatment of Alzheimer's Disease."

Hua, Duy H., and **Li, Jun**, US Department of Health and Human Services, \$234,058, "Rapid Protease Profiling with a Multiplex Electronic Method for Detection of Metastatic Triple-Negative Breast Cancer."

Ito, Takashi, National Science Foundation, \$255,645, "Collaborative Research: Understanding of the Design Principles of Modular Nanopores for Highly Efficient Chemical Sensing."

Ito, Takashi, and **Higgins, Daniel A.**, US Department of Energy, \$68,770, "SISGR: Molecular-Level Investigation of Diffusion Behaviors within Cylindrical Nanoscale Pores."

Jankowiak, Ryszard J., US Department of Energy, \$182,276, "Mutants of Light Harvesting Antennas and Reaction Centers: Disorder, Excitonic Structure, Electron Transfer, and Excitation Energy Transfer Dynamics."

Li, Jun, and **Liu, Bin** (Chemical Engineering), National Science Foundation, \$249,602, "A Novel Fuel Cell Catalyst and Support Architecture Based on Edge-site Pyridinic Nitrogen-doping on Vertically Aligned Conical Carbon Nanofibers."

Li, Jun, National Science Foundation, \$298,367, "Exploring Specific Heating in Microwave-assisted Synthesis of Hierarchical Hybrid Nanomaterials for Future Sustainable Batteries."

Li, Jun, **Aakeroy, Christer B.**, **Bossmann, Stefan**, **Gadzikwa, Tendai**, **Hansen, Ryan R.** (Chemical Engineering), **Higgins, Daniel A.**, **Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H.**, **Li, Ping**, **McLaurin, Emily**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Li, Jun, and **Hua, Duy H.**, US Department of Health and Human Services, \$546,136, "Rapid Protease Profiling with a Multiplex Electronic Method for Detection of Metastatic Triple-Negative Breast Cancer."

Li, Ping, **Aakeroy, Christer B.**, **Bossmann, Stefan**, **Gadzikwa, Tendai**, **Hansen, Ryan R.** (Chemical Engineering), **Higgins, Daniel A.**, **Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H.**, **Li, Jun**, **McLaurin, Emily**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Li, Ping, and **Geisbrecht, Brian V.** (Biochemistry), US Department of Health and Human Services, \$276,283, "Molecular Study of PHA Biosynthesis: Production of Biodegradable Polymers for Medical Applications."

Li, Ping, US Department of Health and Human Services, \$10,536, "Protein Structure and Function - COBRE Pilot Project Mentor."

McLaurin, Emily, National Science Foundation, \$428,420, "CAREER: Microwave-Assisted Ionic Liquid Etching of Colloidal III-V Semiconductor Nanocrystals."

McLaurin, Emily, **Aakeroy, Christer B.**, **Bossmann, Stefan**, **Gadzikwa, Tendai**, **Hansen, Ryan R.** (Chemical Engineering), **Higgins, Daniel A.**, **Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H.**, **Li, Jun**, **Li, Ping**, and **Sues, Peter**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Smith, Paul E., Aikens, Christine M., Andresen, Daniel A. (Computer Science), **Comer, Jeffrey R.** (Anatomy and Physiology), **Liu, Bin** (Chemical Engineering), and **Schmit, Jeremy D.** (Physics), National Science Foundation, \$59,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

Smith, Paul E., US Department of Health and Human Services, \$573,422, "Residue Based Contributions to Protein Stability and Association."

Smith, Paul E., US Department of Health and Human Services, \$50,795, "Towards Exome Analyses: Surprising Outcomes from Mutating Nonconserved Positions."

Smith, Paul E., W. M. Keck Foundation, \$14,250, "Defining the Rules for Rheostatic Modulation of Protein Function."

Sues, Peter, Aakeroy, Christer B., Bossmann, Stefan, Gadzikwa, Tendai, Hansen, Ryan R. (Chemical Engineering), **Higgins, Daniel A., Hohn, Keith L.** (Chemical Engineering), **Hua, Duy H., Li, Jun, Li, Ping, and McLaurin, Emily**, National Science Foundation, \$41,621, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

COMMUNICATION STUDIES

Shaffer, Timothy J., Kettering Foundation, \$25,740, "Deliberative Pedagogy, Phase 2."

DEAN OF ARTS AND SCIENCES

Chakrabarti, Amitabha, Kansas State University Foundation, \$80,000, "Michelle Munson-Serban Simu Faculty Stars Recognition Program."

GEOGRAPHY

Goodin, Douglas G., National Science Foundation, \$137,541, "Collaborative Research: Causes and Consequences of Fire-Regime Variability in Rocky Mountain Forests."

Goodin, Douglas G., National Science Foundation, \$49,979, "Fire Ecology Research Priorities Across Space and Time: Support for the Future of Fire Workshop."

Harrington Jr, John A., F. Price Cossman Memorial Trust, \$24,200, "Plants, Peoples, Places and Patterns: An Institute for K-12 Teachers on Kansas Ecological Culture (2018 Institute)."

Harrington Jr, John A., National Geographic Education Foundation, \$41,235, "Kansas 2017/2018 Alliance Grant."

Paul, Bimal K., National Science Foundation, \$78,767, "Coastal Erosion Vulnerability, Monsoon Dynamics, and Human Adaptive Response."

Temme, Arnaud, Das, Sanjoy (Electrical and Computer Engineering), **Flippo, Daniel** (Biological and Agricultural Engineering), **Sharda, Ajay** (Biological and Agricultural Engineering), and **Welch, Stephen M.** (Agronomy), US Department of Agriculture, \$94,255, "NRI: INT: Multi-Robot Farming on Marginal, Highly Sloped Lands."

GEOLOGY

Datta, Saugata, National Aeronautics and Space Administration, \$92,944, "Biologic and Resource Analog Investigations in Low Light Environments (BRAILLE)."

Farough, Aida, National Science Foundation, \$30,686, "Participation of Aida Farough on Expedition 376."

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 **Mason, April** (Office of the Provost), Kansas State University Foundation, \$28,626, "Pickett Chair."

Krysko, Michael, Kansas State University Foundation, \$16,644, "Kenneth Davis Professorship."

Krysko, Michael, Kansas State University Foundation, \$21,634, "NEH Faculty Enhancement Award in Military History."

Lynn-Sherow, Bonnie, Kansas State University Foundation, \$90,135, "Chapman Center for Personnel."

Mrozek, Donald J., and **Tietzen, Katelyn**, Smith Richardson Foundation, \$7,500, "Iraq in the Cold War and Beyond the Fall of the Soviet Union 1968 -2003."

Tietzen, Katelyn, and **Mrozek, Donald J.**, Smith Richardson Foundation, "Iraq in the Cold War and Beyond the Fall of the Soviet Union 1968 -2003."

MATHEMATICS

Auckly, David R., and **Blank, Ivan**, National Science Foundation, \$9,992, "Midwest Geometry Conference 2017."

Auckly, David R., National Science Foundation, \$299,761, "NSF INCLUDES DDLP: Indigenous Math Circles Community."

Auckly, David R., Simons Foundation, \$42,000, "Stability Related to Four-manifolds."

Bennett, Andrew G., **Allen, David B.** (Curriculum and Instruction), **Jaberi-Douraki, Majid**, **Martinie, Sherri L.** (Curriculum and Instruction), and **Spencer, Craig**, US Department of Education, \$6,929, "Achieving the Vision of Excellent Mathematics Teaching and Learning (ACHIEVE)."

Bennett, Andrew G., **Allen, David B.** (Curriculum and Instruction), **Martinie, Sherri L.** (Curriculum and Instruction), **Spencer, Craig**, and **Thiele, Julie M.** (Curriculum and Instruction), US Department of Education, \$11,810, "Kansas Can Excel in Math and Science Project."

Bennett, Andrew G., Allen, David B. (Curriculum and Instruction), **Martinie, Sherri L.** (Curriculum and Instruction), **Spencer, Craig**, and **Thiele, Julie M.** (Curriculum and Instruction), US Department of Education, \$21,751, "Kansas Can Excel in Math and Science Project."

Blank, Ivan, and **Auckly, David R.**, National Science Foundation, \$9,992, "Midwest Geometry Conference 2017."

Jaberi-Douraki, Majid, Kansas City Area Life Sciences Institute, \$49,964, "1Data: Creating a Simulation Environment for Human and Animal Health Data."

Jaberi-Douraki, Majid, Kansas State University Foundation, \$68,951, "1Data: Creating a Simulation Environment for Human and Animal Health Data."

Jaberi-Douraki, Majid, Allen, David B. (Curriculum and Instruction), **Bennett, Andrew G., Martinie, Sherri L.** (Curriculum and Instruction), and **Spencer, Craig**, US Department of Education, \$6,929, "Achieving the Vision of Excellent Mathematics Teaching and Learning (ACHIEVE)."

Korten, Marianne, Reznikoff, Sarah, and **Yetter, David**, National Science Foundation, \$6,744, "Collaborative Proposal: Central States Mathematics Undergraduate Research Conferences."

Korten, Marianne, and **Yetter, David**, National Science Foundation, \$49,853, "REU Site: Topology, Partial Differential Equations, and Applications to Network Security and Biology."

Mazin, Mikhail, National Science Foundation, \$10,000, "Great Plains Combinatorics Conference 2018."

Reznikoff, Sarah, Korten, Marianne, and **Yetter, David**, National Science Foundation, \$3,372, "Collaborative Proposal: Central States Mathematics Undergraduate Research Conferences."

Spencer, Craig, Allen, David B. (Curriculum and Instruction), **Bennett, Andrew G., Jaberi-Douraki, Majid**, and **Martinie, Sherri L.** (Curriculum and Instruction), US Department of Education, \$6,929, "Achieving the Vision of Excellent Mathematics Teaching and Learning (ACHIEVE)."

Spencer, Craig, Allen, David B. (Curriculum and Instruction), **Bennett, Andrew G., Martinie, Sherri L.** (Curriculum and Instruction), and **Thiele, Julie M.** (Curriculum and Instruction), US Department of Education, \$11,810, "Kansas Can Excel in Math and Science Project."

Spencer, Craig, Allen, David B. (Curriculum and Instruction), **Bennett, Andrew G., Martinie, Sherri L.** (Curriculum and Instruction), and **Thiele, Julie M.** (Curriculum and Instruction), US Department of Education, \$21,751, "Kansas Can Excel in Math and Science Project."

Yetter, David, Korten, Marianne, and **Reznikoff, Sarah**, National Science Foundation, \$3,372, "Collaborative Proposal: Central States Mathematics Undergraduate Research Conferences."

Yetter, David, and **Korten, Marianne**, National Science Foundation, \$49,853, "REU Site: Topology, Partial Differential Equations, and Applications to Network Security and Biology."

PHILOSOPHY

Terlazzo, Rosa, University of Illinois, \$37,694, "Transformative Experiences in Public Education."

PHYSICS

Ben-Itzhak, Itzhak, US Department of Energy, \$2,650,000, "Structure and Dynamics of Atoms. Ions, Molecules, and Surfaces."

Berg, Matthew J., National Science Foundation, \$181,817, "CAREER: In Situ Study of Aerosol in the Coarse Mode with Digital Holography."

Berg, Matthew J., US Army, \$113,525, "Extracting Scattering Observables from Digital Holograms: Application to Aerosol Particle Characterization."

Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Chakrabarti, Amitabha, and Sorensen, Christopher M., National Science Foundation, \$1,440, "Studies of Light Scattering by Particles of Arbitrary Shape."

Corwin, Kristan L., Alvarez Santos, Eduardo (Agronomy), Washburn, Brian R., and Welch, Stephen M. (Agronomy), National Science Foundation, \$676,970, "MRI: Agro-Combs: Development of A Mid-Infrared Dual-Comb Spectrometer."

Corwin, Kristan L., and Flanders, Bret N., National Science Foundation, \$56,948, "REU Site: Physics at Kansas State University -Interactions of Matter, Light and Learning."

Flanders, Bret N., and Corwin, Kristan L., National Science Foundation, \$85,423, "REU Site: Physics at Kansas State University -Interactions of Matter, Light and Learning."

Horton-Smith, Glenn A., Bolton, Timothy A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$268,000, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Ivanov, Andrew G., National Science Foundation, \$107,943, "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, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Kaadze, Ketino, US Department of Energy, \$96,601, "High Luminosity (HL) LHC CMS Detector Upgrade Project: Endcap Calorimeter."

Kaadze, Ketino, US Department of Energy, \$80,000, "LHC CMS Detector Upgrade HCAL Subsystem."

Kaadze, Ketino, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Maravin, Yurii, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Laverty, James, National Science Foundation, \$287,681, "Collaborative Research: Extending A Coherent Gateway to STEM Teaching and Learning."

Law, Bruce M., American Chemical Society, \$110,000, "Coupled Brownian Motion at Liquid-Air Surfaces."

Maravin, Yurii, US Department of Energy, \$721,546, "Contributions to Mu2e Project."

Maravin, Yurii, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Ratra, Bharat, and Samushia, Lado, US Department of Energy, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Mohammadi, Abdollah, US Department of Energy, \$20,990, "Fellowship for 2017 LPC Distinguished Researcher Program."

Ratra, Bharat, National Science Foundation, \$7,500, "Quarknet."

Ratra, Bharat, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, and Samushia, Lado, US Department of Energy, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Rudenko, Artem, Sorensen, Christopher M., and Thumm, Uwe, US Air Force, \$55,749, "Recollision Physics at the Nanoscale."

Samushia, Lado, National Aeronautics and Space Administration, \$24,766, "Constraining Dark Energy and Modified Gravity with Euclid."

Samushia, Lado, National Aeronautics and Space Administration, \$75,394, "Cosmology with the WFIRST High Latitude Survey -2018."

Samushia, Lado, Bolton, Timothy A., Horton-Smith, Glenn A., Ivanov, Andrew G., Kaadze, Ketino, Maravin, Yurii, and Ratra, Bharat, US Department of Energy, \$234,500, "Research at Kansas State University into the Basic Nature of Matter, Energy, Space, and Time."

Sayre, Eleanor C., National Science Foundation, \$1,517,083, "Collaborative Research: PhysPort's Usability and Impact on Faculty Teaching Practice."

Schmit, Jeremy D., Aikens, Christine M. (Chemistry), **Andresen, Daniel A.** (Computer Science), **Comer, Jeffrey R.** (Anatomy and Physiology), **Liu, Bin** (Chemical Engineering), and **Smith, Paul E.** (Chemistry), National Science Foundation, \$52,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

Schmit, Jeremy D., US Department of Health and Human Services, \$279,899, "Theoretical and Computational Modeling of Amyloid Aggregation."

Sorensen, Christopher M., and Bossmann, Stefan (Chemistry), Hubert Barry Hemsworth, \$321,167, "Detonation Graphene Project."

Sorensen, Christopher M., and Chakrabarti, Amitabha, National Science Foundation, \$3,360, "Studies of Light Scattering by Particles of Arbitrary Shape."

Sorensen, Christopher M., Rudenko, Artem, and Thumm, Uwe, US Air Force, \$55,749, "Recollision Physics at the Nanoscale."

Thumm, Uwe, National Science Foundation, \$90,000, "Attosecond Time-resolved Quantum Dynamics: From Atoms Towards Nanostructures."

Thumm, Uwe, Rudenko, Artem, and Sorensen, Christopher M., US Air Force, \$57,439, "Recollision Physics at the Nanoscale."

Washburn, Brian R., Alvarez Santos, Eduardo (Agronomy), **Corwin, Kristan L., and Welch, Stephen M.** (Agronomy), National Science Foundation, \$676,970, "MRI: Agro-Combs: Development of A Mid-Infrared Dual-Comb Spectrometer."

POLITICAL SCIENCE

Flynn, Michael, and Martinez, Carla, US Department of Defense, \$60,322, "The Political, Economic, and Social Effects of America's Overseas Military Presence."

Martinez, Carla, and Flynn, Michael, US Department of Defense, \$60,322, "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., and Pickens II, Charles**, US Department of Health and Human Services, \$912,600, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Brase, Gary, DeLoach, Scott A. (Computer Science), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Heier Stamm, Jessica L.** (Industrial and Manufacturing Systems Engineering), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), National Science Foundation, \$20,894, "SSDIM: EAGER: Data Generation for the Coupled System Composed of the Beef Cattle Production Infrastructure and the Transportation Services Infrastructure in Southwestern Kansas."

Cain, Mary E., Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Kirkpatrick, Kimberly, Loschky, Lester C., and Pickens II, Charles**, US Department of Health and Human Services, \$912,600, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Kirkpatrick, Kimberly, Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Loschky, Lester C., and Pickens II, Charles**, US Department of Health and Human Services, \$1,042,972, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Kirkpatrick, Kimberly, US Department of Health and Human Services, \$337,500, "Timing, Reward Processing and Choice."

Lee, Jin, Federal Emergency Management Agency, \$23,993, "FOCUS Survey Dissemination and Implementation."

Lee, Jin, US Department of Homeland Security, \$15,369, "Stress and Violence in Fire-based EMS Responders (SAVER)."

Loschky, Lester C., Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly**, and **Pickens II, Charles**, US Department of Health and Human Services, \$304,200, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Monaco, Gregory E., National Science Foundation, \$44,726, "BD SPOKES: SPOKE: MIDWEST: Digital Agriculture -Unmanned Aircraft Systems, Plant Science, and Education."

Monaco, Gregory E., and **Young, Michael**, University of Missouri, \$37,473, "Funding for Executive Director -Great Plains Network."

Pickens II, Charles, Andresen, Daniel A. (Computer Science), **Bailey, Heather R., Bossmann, Stefan** (Chemistry), **Cain, Mary E., Kirkpatrick, Kimberly**, and **Loschky, Lester C.**, US Department of Health and Human Services, \$912,600, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Young, Michael, and **Monaco, Gregory E.**, University of Missouri, "Funding for Executive Director -Great Plains Network."

SCHOOL OF JOURNALISM AND MASS COMMUNICATIONS

Smethers, Steven J., Kerr, Jessica P. (Educational and Personal Development), and **Schenck-Hamlin, Donna C.** (Center for Engagement and Community Development), Kansas Health Foundation, \$8,234, "The Healthy Communities Lab: Building Organizational Capacity to Create a Culture of Health in Manhattan, KS through Digital Media Storytelling and Public Dialogue."

Wolgast, Stephen L., Collegian Media Group, \$59,729, "Student Publications Positions."

SCHOOL OF MUSIC, THEATRE, AND DANCE

Digby, Katherine, National Endowment for the Arts, \$18,221 (includes \$3,221 from Third Party Match), "Simurgh."

Pinkall, Bryan R., Master Teacher, Inc., \$15,950, "Summer Choral Institute."

SOCIOLOGY, ANTHROPOLOGY, AND SOCIAL WORK

Kurtz, Don L., Nebraska Department of Correctional Services, \$21,381, "Evaluation of the Nebraska Department of Correctional Services' Vocational and Life Skills Program."

Middendorf, Gerad D., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Presley, DeAnn R.** (Agronomy), **Rice, Charles W.** (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Shoup, Douglas E.** (Southeast Area Office), **Tomlinson, Peter J.** (Agronomy), and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, \$93,178, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Ritterbush, Lauren W., National Park Service, \$18,115, "Kanza NRHP Multiple Properties Nomination."

Sanderson, Matthew R., Golden, Bill B. (Agricultural Economics), **Rice, Charles W.** (Agronomy), and **Rogers, Danny H.** (Biological and Agricultural Engineering), US Department of Agriculture, \$69,097, "Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate."

STATISTICS

Hefley, Trevor, Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K.** (Animal Sciences and Industry), **Niederwerder, Megan** (Diagnostic Medicine/Pathobiology), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$14,548, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

Hefley, Trevor, US Department of the Interior, \$14,000, "Development of Multi-species Distribution Models for the Upper Mississippi River Restoration Program."

Neill, James W., Shell Oil Company U.S., \$5,000, "Shell U.S. Proposal for Applied Statistics at K-State."

COLLEGE OF EDUCATION

CURRICULUM AND INSTRUCTION

Alberto, Jamie, and **McCornack, Brian P.** (Entomology), Kansas Corn Commission, \$2,925, "Special Topics Course for Elementary Education Majors at Kansas State University."

Allen, David B., Bennett, Andrew G. (Mathematics), **Jaberi-Douraki, Majid** (Mathematics), **Martinie, Sherri L.**, and **Spencer, Craig** (Mathematics), US Department of Education, \$6,929, "Achieving the Vision of Excellent Mathematics Teaching and Learning (ACHIEVE)."

Allen, David B., Bennett, Andrew G. (Mathematics), **Martinie, Sherri L., Spencer, Craig** (Mathematics), and **Thiele, Julie M.**, US Department of Education, \$11,810, "Kansas Can Excel in Math and Science Project."

Allen, David B., Bennett, Andrew G. (Mathematics), **Martinie, Sherri L., Spencer, Craig** (Mathematics), and **Thiele, Julie M.**, US Department of Education, \$21,751, "Kansas Can Excel in Math and Science Project."

Burenheide, Brad J., and **Vontz, Thomas**, US Department of Education, \$58,500, "James Madison Legacy Project (JMLP) of the We Are the People Programs (WTP)."

Burenheide, Bradley, and **Vontz, Thomas**, US Department of Education, \$7,690, "James Madison Legacy Project (JMLP) of the We the People Program (WTP)."

Goodson, F. Todd, and **Vontz, Thomas**, Kansas Board of Regents, \$95,000, "Transitions to Teaching."

Martinie, Sherri L., Allen, David B., Bennett, Andrew G. (Mathematics), **Jaberi-Douraki, Majid** (Mathematics), and **Spencer, Craig** (Mathematics), US Department of Education, \$71,274, "Achieving the Vision of Excellent Mathematics Teaching and Learning (ACHIEVE)."

Martinie, Sherri L., Allen, David B., Bennett, Andrew G. (Mathematics), **Spencer, Craig** (Mathematics), and **Thiele, Julie M.**, US Department of Education, \$11,810, "Kansas Can Excel in Math and Science Project."

Martinie, Sherri L., Allen, David B., Bennett, Andrew G. (Mathematics), **Spencer, Craig** (Mathematics), and **Thiele, Julie M.**, US Department of Education, \$21,751, "Kansas Can Excel in Math and Science Project."

Thiele, Julie M., Allen, David B., Bennett, Andrew G. (Mathematics), **Martinie, Sherri L.**, and **Spencer, Craig** (Mathematics), US Department of Education, \$31,494, "Kansas Can Excel in Math and Science Project."

Thiele, Julie M., Allen, David B., Bennett, Andrew G. (Mathematics), **Martinie, Sherri L.**, and **Spencer, Craig** (Mathematics), US Department of Education, \$58,003, "Kansas Can Excel in Math and Science Project."

Vontz, Thomas, and **Goodson, F. Todd**, Kansas Board of Regents, \$95,000, "Transitions to Teaching."

Vontz, Thomas, and **Burenheide, Brad J.**, US Department of Education, \$58,500, "James Madison Legacy Project (JMLP) of the We Are the People Programs (WTP)."

Vontz, Thomas, and **Burenheide, Bradley**, US Department of Education, \$7,690, "James Madison Legacy Project (JMLP) of the We the People Program (WTP)."

DEAN OF EDUCATION

Dalton, Andrew, US Department of Education, \$423,762, "KANCO 2."

Havlicek, Barbara J., Kansas Foundation for Agriculture in the Classroom, \$140,926, "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., US Department of Education, \$454,243, "INSIGHT."

Herrera, Socorro G., US Department of Education, \$80,498, "USD National Professional Development."

Herrera, Socorro G., USD 259, Wichita, \$18,000, "Wichita Schools ESL Professional Development -Beech Elementary."

Herrera, Socorro G., USD 259, Wichita, \$18,000, "Wichita Schools ESL Professional Development -Spaght Elementary."

Herrera, Socorro G., USD 512, Shawnee Mission, \$32,000, "Shawnee Mission Multi-Campus Professional Development for Teachers of CLD Students -Year 3."

Shuman, Cindy, National Science Foundation, \$90,000, "Center for Next Generation Composites - Phase II -Evaluation."

Shuman, Cindy, National Science Foundation, \$16,000, "Enhancing the Recruitment, Retention, Training, and Development of Predominantly Hispanic STEM Majors in the Physical Sciences (Chemistry and Physics) -Evaluation."

Shuman, Cindy, National Science Foundation, \$15,000, "NSF INCLUDES: Mississippi Alliance for Women in Computing (MAWC) -Evaluation."

Shuman, Cindy, National Science Foundation, \$6,080, "NSF IUSE: Fostering a Community of Scholarship Among Community College STEM Faculty through Support for Discipline Based Education Research -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, \$149,575, "Farmers Market and Local Food Promotion Program Grant Program Evaluation."

Shuman, Cindy, Amachawadi, Raghavendra G. (Clinical Sciences), **Coetzee, Johann F.** (Anatomy and Physiology), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Reppert, Emily** (Clinical Sciences), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$23,999, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Shuman, Cindy, US Department of Agriculture, \$6,000, "SAVE: A Pathway to Farming for Transitioning Service Members and Veterans -Evaluation."

Shuman, Cindy, US Department of Agriculture, \$72,250, "USDA Team Nutrition Training Grant Leading School Wellness into Action -Evaluation."

Shuman, Cindy, US Department of Health and Human Services, \$67,500, "Building Integrated Pathways to Independence for Diverse Biomedical Researchers (Project Pathways) Evaluation."

Shuman, Cindy, US Department of Health and Human Services, \$30,400, "Kansas IDeA Network of Biomedical Research Excellence (K-INBE) External Evaluation."

EDUCATIONAL LEADERSHIP

Doll, Richard, Kansas State Department of Education, \$4,485, "Kansas Educational Leadership Institute."

Liang, Jia, Fitzsimmons, Eric J. (Civil Engineering), **Kulesza, Stacey E.** (Civil Engineering), and **Zacharakis, Jeffrey T.**, National Science Foundation, \$39,981, "Research Initiation: Investigating the Role of Social Responsibility on Veteran Student Retention."

Yelich Biniecki, Susan M., University of Opole, \$322, "Annex to Inter-institutional Agreement 2016-2021."

Zacharakis, Jeffrey T., American Association for Adult & Continuing Education, \$31,500, "Adult Education Quarterly Editorship."

Zacharakis, Jeffrey T., Fitzsimmons, Eric J. (Civil Engineering), **Kulesza, Stacey E.** (Civil Engineering), and **Liang, Jia**, National Science Foundation, \$19,991, "Research Initiation: Investigating the Role of Social Responsibility on Veteran Student Retention."

SPECIAL EDUCATION, COUNSELING, AND STUDENT AFFAIRS

Rubin, Lisa, Dunn, Erin C. (Intercollegiate Athletics Local), and **Lutter, Sonya L.** (School of Family Studies and Human Services), National Collegiate Athletic Association, \$3,400, "NCAA Athletes and Cost of Attendance Money: Spending and Financial Literacy."

COLLEGE OF ENGINEERING

ADVANCED MANUFACTURING INSTITUTE

Kramer, Bradley A., and Tucker, Jeffrey W., US Department of Commerce, \$38,500 (includes \$10,000 from In Kind Contribution KSU IC, and \$3,500 from In Kind Contribution KSU Olathe), "Kansas State University Olathe Innovation Accelerator University Center Program Grant."

Lanz, Bret E., and Tucker, Jeffrey W., Support Funds, "Match Funds Agreement for KS0973."

Morgan, Heather M., and Tucker, Jeffrey W., US Department of Agriculture, \$77,400, "Rural Small Business Marketing and E-commerce Technical Assistance."

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."

Tucker, Jeffrey W., Huck Boyd Foundation, \$76,500, "Huck Boyd USDA RD Funding."

Tucker, Jeffrey W., North Central Regional Planning Commission, \$30,000, "Off Campus Service Agreement."

Tucker, Jeffrey W., and Lanz, Bret E., Support Funds, \$140,038, "Match Funds Agreement for KS0973."

Tucker, Jeffrey W., and Morgan, Heather M., US Department of Agriculture, \$8,600, "Rural Small Business Marketing and E-commerce Technical Assistance."

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., and Kramer, Bradley A., US Department of Commerce, \$346,500 (includes \$90,000 from In Kind Contribution KSU IC, and \$31,500 from In Kind Contribution KSU Olathe), "Kansas State University Olathe Innovation Accelerator University Center Program Grant."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

BIOLOGICAL AND AGRICULTURAL ENGINEERING

Bigham, Kari A., and Moore, Trisha L., Kansas Department of Agriculture, \$1,900, "Tuttle Creek Watershed Streambank Site Assessment."

Brokesh, Edwin L., and Higgins, Daniel A. (Chemistry), Kansas Soybean Commission, \$18,955, "K-State Biodiesel Initiative Workshop Planning and Fuel and WVO Handling, Storage, and Quality Monitoring Project."

Flippo, Daniel, Sharda, Ajay, SV, Krishna Jagadish (Agronomy), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), CNH Industrial America LLC, \$1,475, "Testing and Evaluation Services Agreement."

Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), **Sharda, Ajay,** and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, \$915, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Flippo, Daniel, Sharda, Ajay, and **Wang, Donghai**, Topcon Agriculture Americas, LLC, \$5,874, "Protein Sensor Integration for Real-time Sensing on Grain Combines."

Flippo, Daniel, Barstow, Thomas J. (Kinesiology), **Gonzalez, John M.** (Animal Sciences and Industry), **Rozell, Timothy G.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), US Department of Agriculture, \$25,000, "Effect of Transport Trailer Vibration on Muscle Fatigue and the Non-ambulatory Condition."

Flippo, Daniel, Das, Sanjoy (Electrical and Computer Engineering), **Sharda, Ajay, Temme, Arnaud** (Geography), and **Welch, Stephen M.** (Agronomy), US Department of Agriculture, \$506,622, "NRI: INT: Multi-Robot Farming on Marginal, Highly Sloped Lands."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

He, Mei, US Department of Health and Human Services, \$57,503, "Microfluidic Engineering of Immunogenic Exosomes for Personalized Cancer Vaccine."

Hutchinson, Stacy L., Hettiarachchi, Ganga M. (Agronomy), and **Parameswaran, Prathap** (Civil Engineering), US Department of Agriculture, \$15,000, "Novel Platform for Channelized Nutrient Product Sequestration from Agricultural Wastewaters through Optimized Anaerobic Bioprocesses."

Hutchinson, Stacy L., and **Parameswaran, Prathap** (Civil Engineering), US Department of Defense, \$10,000, "Anaerobic Membrane Bioreactor (AnMBR) for Sustainable Wastewater Treatment."

Liu, Zifei, and **Maghirang, Ronaldo G.**, National Pork Board, \$59,615, "A Meta-analysis of Life Cycle Assessments on Environmental Footprints of Five Finishing Swine Diets."

Maghirang, Ronaldo G., and **Liu, Zifei**, National Pork Board, \$6,624, "A Meta-analysis of Life Cycle Assessments on Environmental Footprints of Five Finishing Swine Diets."

Maghirang, Ronaldo G., US Department of Agriculture, \$182,000, "Mechanisms and Mitigation of Dust Generation during Grain Handling and Processing."

Maghirang, Ronaldo G., US Department of Agriculture, \$117,840, "Modeling of Stored Product Packing and Fumigation."

Moore, Trisha L., and **Bigham, Kari A.**, Kansas Department of Agriculture, \$100, "Tuttle Creek Watershed Streambank Site Assessment."

Moore, Trisha L., US Department of Agriculture, \$73,548 (includes \$24,267 from The Nature Conservancy), "Restoring Grazing Land Hydrologic Services through Eastern Redcedar Management."

Moore, Trisha L., 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 **Sheshukov, Aleksey Y.**, US Department of the Interior, \$23,317 (includes \$6,342 from In-Kind), "Kansas Water Resources Research Institute 2016."

Rahmani, Vahid, Kansas Water Office, \$20,432, "ADCP Velocity Measurements in Tuttle Creek Lake."

Rogers, Danny H., Golden, Bill B. (Agricultural Economics), **Rice, Charles W.** (Agronomy), and **Sanderson, Matthew R.** (Sociology, Anthropology, and Social Work), US Department of Agriculture, \$6,282, "Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate."

Rogers, Danny H., Aguilar, Jonathan P. (Southwest Area Office), **Devlin, Daniel L.** (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J.** (Southwest Area Office), **Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya**(Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.** (Southwest Area Office), US Department of

Agriculture, \$104,697 (includes \$3,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

Rogers, Danny H., 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), **Lin, Xiaomao** (Agronomy), **Obour, Augustine K.** (Agricultural Research Center-Hays), **O'Brien, Daniel M.** (Northwest Area Office), **Schlegel, Alan J.** (Southwest Research Extension Center), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$6,684, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Sharda, Ajay, Flippo, Daniel, SV, Krishna Jagadish (Agronomy), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), CNH Industrial America LLC, \$25,075, "Testing and Evaluation Services Agreement."

Sharda, Ajay, Deere & Company, \$11,250, "Quantifying PWM Nozzle Body Flow and Pressure."

Sharda, Ajay, Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), and **Van Der Merwe, Deon** (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, \$40,251, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Sharda, Ajay, Flippo, Daniel, and **Wang, Donghai**, Topcon Agriculture Americas, LLC, \$93,977, "Protein Sensor Integration for Real-time Sensing on Grain Combines."

Sharda, Ajay, Ciampitti, Ignacio (Agronomy), and **Griffin, Terry W.** (Agricultural Economics), United Soybean Board, \$24,939, "On-farm Digital Technologies."

Sharda, Ajay, Das, Sanjoy (Electrical and Computer Engineering), **Flippo, Daniel, Temme, Arnaud** (Geography), and **Welch, Stephen M.** (Agronomy), US Department of Agriculture, \$200,292, "NRI: INT: Multi-Robot Farming on Marginal, Highly Sloped Lands."

Sheshukov, Aleksey Y., National Science Foundation, \$105,886, "Collaborative Research: Hydrologic and Permafrost Changes Due to Tree Expansion into Tundra."

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, \$23,317 (includes \$6,342 from In-Kind), "Kansas Water Resources Research Institute 2016."

Slocombe, John W., US Department of Agriculture, \$180,000, "Kansas AgrAbility Project."

Wang, Donghai, Flippo, Daniel, and **Sharda, Ajay**, Topcon Agriculture Americas, LLC, \$17,621, "Protein Sensor Integration for Real-time Sensing on Grain Combines."

Wang, Donghai, and Sun, X. Susan (Grain Science and Industry), US Department of Agriculture, \$9,000, "Acquisition of Goods and Services."

Wang, Donghai, US Department of Agriculture, \$3,000, "Spectroscopic Measurement of Biological Materials."

Wang, Donghai, and Sun, X. Susan (Grain Science and Industry), US Environmental Protection Agency, \$7,482, "Fully Utilizing Biomass for Biofuels and Chemicals."

Zhang, Naiqian, Kingdom of Saudi Arabia, \$31,000, "Automatic Assessment of Biological Control Effectiveness of Trichogramma Bourarachae Against Ephestia Cautella Using Machine Vision."

CENTER FOR HAZARDOUS SUBSTANCE RESEARCH

Erickson, Larry E., Davis, Lawrence C. (Biochemistry), **Hettiarachchi, Ganga M.** (Agronomy), and **Roozeboom, Kraig L.** (Agronomy), North Atlantic Treaty Organization (NATO), \$19,211 (includes \$5,249 from In-Kind Contribution -Erickson support, and \$5,331 from In-Kind Contribution -Erickson's Effort), "New Phytotechnology for Cleaning Contaminated Military Sites."

Leven, Blase A., Saulters, Oral S., Walker, Mark, and Weiser, Margaret, US Environmental Protection Agency, \$725,001, "Technical Assistance to Brownfields Communities -US EPA Regions 5, 6, 7, 8 & National."

Leven, Blase A., and Saulters, Oral S., US Environmental Protection Agency, \$60,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Saulters, Oral S., Leven, Blase A., Walker, Mark, and Weiser, Margaret, US Environmental Protection Agency, \$131,818, "Technical Assistance to Brownfields Communities -US EPA Regions 5, 6, 7, 8 & National."

Saulters, Oral S., and Leven, Blase A., US Environmental Protection Agency, \$240,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Walker, Mark, Leven, Blase A., Saulters, Oral S., and Weiser, Margaret, US Environmental Protection Agency, \$131,818, "Technical Assistance to Brownfields Communities -US EPA Regions 5, 6, 7, 8 & National."

Weiser, Margaret, Leven, Blase A., Saulters, Oral S., and Walker, Mark, US Environmental Protection Agency, \$329,546, "Technical Assistance to Brownfields Communities -US EPA Regions 5, 6, 7, 8 & National."

CHEMICAL ENGINEERING

Amama, Placidus B., National Science Foundation, \$105,337, "CAREER: Rational Design of Efficient Carbon Nanotube-Supported TiO₂ Photocatalysts for Air Purification."

Amama, Placidus B., National Science Foundation, \$305,566, "Nanomanufacturing of Vertically Aligned Carbon Nanotube Arrays from Industrial Waste Gas Mixture."

Amama, Placidus B., US Department of Defense, \$10,000, "Effect of Ion Beam Bombardment of Different Metal Oxide Catalyst Supports on Carbon Nanotube Growth."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Edgar, James H., National Science Foundation, \$5,880, "Hexagonal Boron Nitride Crystal Growth from Solution: A Study of Fundamentals."

Edgar, James H., and **Janzen, Eli M.**, US Department of Commerce, \$9,219, "Undergraduate Research Through the NIST SURF Program (Eli Janzen)."

Hansen, Ryan R., Aakeroy, Christer B. (Chemistry), **Bossmann, Stefan** (Chemistry), **Gadzikwa, Tendai** (Chemistry), **Higgins, Daniel A.** (Chemistry), **Hohn, Keith L., Hua, Duy H.** (Chemistry), **Li, Jun** (Chemistry), **Li, Ping** (Chemistry), **McLaurin, Emily** (Chemistry), and **Sues, Peter** (Chemistry), National Science Foundation, \$20,811, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Hansen, Ryan R., and **Platt, Thomas G.** (Biology), National Science Foundation, \$3,600, "PAPM EAGER: Microwell Array Platform for High-Throughput Screening and Discovery of Microbial Interactions."

Hansen, Ryan R., US Department of Energy, \$125,000, "An Analytical Technology Platform to Identify Symbiotic Interactions between PGPR and Root Microbiome Members from Biofuel Feedstocks."

Hohn, Keith L., Aakeroy, Christer B. (Chemistry), **Bossmann, Stefan** (Chemistry), **Gadzikwa, Tendai** (Chemistry), **Hansen, Ryan R., Higgins, Daniel A.** (Chemistry), **Hua, Duy H.** (Chemistry), **Li, Jun** (Chemistry), **Li, Ping** (Chemistry), **McLaurin, Emily** (Chemistry), and **Sues, Peter** (Chemistry), National Science Foundation, \$20,811, "MRI: Acquisition of a 400 MHz NMR Spectrometer to Support Research Projects from C-H Bond Oxidation to Engineering Molecular Materials."

Janzen, Eli M., and **Edgar, James H.**, US Department of Commerce, "Undergraduate Research Through the NIST SURF Program (Eli Janzen)."

Liu, Bin, and **Li, Jun** (Chemistry), National Science Foundation, \$180,747, "A Novel Fuel Cell Catalyst and Support Architecture Based on Edge-site Pyridinic Nitrogen-doping on Vertically Aligned Conical Carbon Nanofibers."

Liu, Bin, Aikens, Christine M. (Chemistry), **Andresen, Daniel A.** (Computer Science), **Comer, Jeffrey R.** (Anatomy and Physiology), **Schmit, Jeremy D.** (Physics), and **Smith, Paul E.** (Chemistry), National Science Foundation, \$59,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

CIVIL ENGINEERING

Dissanayake, Sunanda, and Fitzsimmons, Eric J., Kansas Department of Transportation, \$28,769, "Understanding Overweight/Oversize Freight Flow and Safety in Kansas Using KTRIPS."

Fitzsimmons, Eric J., Kansas Department of Transportation, \$68,484, "Developing Vehicle Speed Profiles for Typical Kansas Work Zones with Unseen Hazards of Sudden Changes in Horizontal Alignment after Advance Warning."

Fitzsimmons, Eric J., and Dissanayake, Sunanda, Kansas Department of Transportation, \$35,163, "Understanding Overweight/Oversize Freight Flow and Safety in Kansas Using KTRIPS."

Fitzsimmons, Eric J., Kulesza, Stacey E., Liang, Jia (Educational Leadership), and **Zacharakis, Jeffrey T.** (Educational Leadership), National Science Foundation, \$69,967, "Research Initiation: Investigating the Role of Social Responsibility on Veteran Student Retention."

Fitzsimmons, Eric J., US Department of Transportation, \$31,900, "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., Kansas Department of Transportation, \$20,000, "Administration of KDOT/KTRAN Program."

Hossain, Mustaque A., and Jones, Christopher A., Kansas Department of Transportation, \$5,988, "Exploring a Rapid Test for Aggregate Qualification for 40-year Pavement Life."

Hossain, Mustaque A., and Kulesza, Stacey E., Kansas Department of Transportation, \$62,669, "Implementation AASHTOWare Pavement ME Design Software for KDOT."

Hossain, Mustaque A., Kansas Department of Transportation, \$7,775, "Review of QC/QA Data to Improve Current Specifications for PCC Pavements in Kansas."

Hossain, Mustaque A., US Department of Transportation, \$249,832, "Optimum AC Overlay Thickness over FDR of Existing AC Pavements."

Im, Jeongdae, American Chemistry Council, \$160,414, "Biologically Mediated Abiotic Degradation (BMAD) of Bisphenol A."

Jones, Christopher A., and Hossain, Mustaque A., Kansas Department of Transportation, \$23,951, "Exploring a Rapid Test for Aggregate Qualification for 40-year Pavement Life."

Kulesza, Stacey E., Kansas Department of Transportation, \$20,052, "Galvanized and Aluminized Pipe Durability Field Review and Evaluation."

Kulesza, Stacey E., and Hossain, Mustaque A., Kansas Department of Transportation, \$41,779, "Implementation AASHTOWare Pavement ME Design Software for KDOT."

Kulesza, Stacey E., Fitzsimmons, Eric J., Liang, Jia (Educational Leadership), and **Zacharakis, Jeffrey T.** (Educational Leadership), National Science Foundation, \$69,967, "Research Initiation: Investigating the Role of Social Responsibility on Veteran Student Retention."

Kulesza, Stacey E., Farney, Jaymelynn K. (Southeast Area Office), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), US Department of Agriculture, \$4,999, "Improving Soil Health and Profitability with Cover Crops and Precision Conservation."

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), **Steward, David R.**, and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$13,368, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Kulesza, Stacey E., US Department of Transportation, \$110,742, "Predicting Critical Shear Stress of Fine-grained Soils in Kansas."

Mathews, Alexander P., National Science Foundation, \$6,000, "Eager: A Novel Bioprocess for the Valorization of Waste and Biomass."

Parameswaran, Prathap, Bio Huma Netics, Inc., \$10,935, "Assessing the Denitrification Potential of PROBIOTIC SOLUTIONS for Sustainable Wastewater Treatment."

Parameswaran, Prathap, Black & Veatch Corporation, \$5,000, "Characterization and Evaluation of Biodegradability of a Complex Industrial Waste."

Parameswaran, Prathap, National Science Foundation, \$136,908, "Smart Adaptation of Enriched Microbiomes in Recovered Nutrient Products (bio-fertilizers) from Anaerobic Wastewater Treatment to the Native Soil."

Parameswaran, Prathap, Hettiarachchi, Ganga M. (Agronomy), and **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), US Department of Agriculture, \$60,000, "Novel Platform for Channelized Nutrient Product Sequestration from Agricultural Wastewaters through Optimized Anaerobic Bioprocesses."

Parameswaran, Prathap, and **Hutchinson, Stacy L.** (Biological and Agricultural Engineering), US Department of Defense, \$10,000, "Anaerobic Membrane Bioreactor (AnMBR) for Sustainable Wastewater Treatment."

Peric, Dunja, Kansas Department of Transportation, \$67,236, "Determining an Acceptable California Bearing Ratio (CBR) Value for Kansas Subgrades Based on Pavement Distress Data."

Peterman, Robert J., Caterpillar, Inc., \$1,213, "Establishing Pre-Stressing Frames for Engineering Hall."

Peterman, Robert J., and **Beck, B. Terry** (Mechanical and Nuclear Engineering), US Department of Transportation, \$215,759 (includes \$2,500 from NUCOR), "Developing Qualification Tests to Ensure Proper Selection and Interaction of Pretensioned Concrete Railroad Tie Materials."

Steward, David 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), **Jaeger, John R.** (Agricultural Research Center-Hays), **Johnson, Sandra K.** (Northwest Area Office), **Kulesza, Stacey E.**, **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, \$13,368, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Stokes, Robert W., **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)."

COMPUTER SCIENCE

Amariuca, George, National Science Foundation, \$10,541, "SBE: Small: Continuous Human-User Authentication by Induced Procedural Visual-Motor Biometrics."

Amariuca, George, National Science Foundation, \$201,847, "TWC: Small: Time Advantage-based Key Establishment Protocols for Low-cost Wireless Networked Systems."

Andresen, Daniel A., and **Caragea, Doina**, National Science Foundation, \$50,000, "BIGDATA: IA: Collaborative Research: Domain Adaption Approaches for Classifying Crisis Related Data on Social Media."

Andresen, Daniel A., **Aikens, Christine M.** (Chemistry), **Comer, Jeffrey R.** (Anatomy and Physiology), **Liu, Bin** (Chemical Engineering), **Schmit, Jeremy D.** (Physics), and **Smith, Paul E.** (Chemistry), National Science Foundation, \$59,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

Andresen, Daniel A., **Bailey, Heather R.** (Psychological Sciences), **Bossmann, Stefan** (Chemistry), **Cain, Mary E.** (Psychological Sciences), **Kirkpatrick, Kimberly** (Psychological Sciences), **Loschky, Lester C.** (Psychological Sciences), and **Pickens II, Charles** (Psychological Sciences), US Department of Health and Human Services, \$173,829, "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Caragea, Cornelia A., Institute of Museum and Library Services, \$148,394, "Programmatic Extraction of 'Documents' from Web Archives."

Caragea, Cornelia A., National Science Foundation, \$400,000, "BIGDATA: IA: Collaborative Research: Domain Adaptation Approaches for Classifying Crisis Related Data on Social Media."

Caragea, Cornelia A., National Science Foundation, \$193,323, "CAREER: From Data to Knowledge: Extracting and Utilizing Concept Graphs in Online Environments."

Caragea, Cornelia A., National Science Foundation, \$229,707, "CHS: Small: Collaborative Research: Automating Relevance and Trust Detection in Social Media Data for Emergency Response."

Caragea, Cornelia A., National Science Foundation, \$181,010, "CRISP Type 2: Collaborative Research: Resilience Analytics: A Data-driven Approach for Enhanced Interdependent Network Resilience."

Caragea, Cornelia A., National Science Foundation, \$64,960, "III: Small: Collaborative Research: Keyphrase Extraction in Document Networks."

Caragea, Cornelia A., National Science Foundation, \$122,878, "TWC: Small: Collaborative: Towards Privacy Preserving Online Image Sharing."

Caragea, Doina, and **Andresen, Daniel A.**, National Science Foundation, \$450,000, "BIGDATA: IA: Collaborative Research: Domain Adaption Approaches for Classifying Crisis Related Data on Social Media."

Caragea, Doina, National Science Foundation, \$200,000, "SaTC: Core: Small: Collaborative: Data-Driven Approaches for Large-Scale Security Analysis of Mobile Applications."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

DeLoach, Scott A., **Brase, Gary** (Psychological Sciences), **Gruenbacher, Don M.** (Electrical and Computer Engineering), **Heier Stamm, Jessica L.** (Industrial and Manufacturing Systems Engineering), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), National Science Foundation, \$22,636, "SSDIM: EAGER: Data Generation for the Coupled System Composed of the Beef Cattle Production Infrastructure and the Transportation Services Infrastructure in Southwestern Kansas."

Hatcliff, John M., **Ranganath, Venkatesh**, and **Robby, -**, National Science Foundation, \$56,000, "FDA SIR: Architecturally-Integrated Hazard Analyses for Medical Application Platforms."

Hatcliff, John M., Robby, -, and Vasserman, Eugene, US Department of Defense, \$31,500, "Fault Injection and Analysis for Safety and Security."

Hatcliff, John M., and Vasserman, Eugene, US Department of Homeland Security, \$74,557, "Cyber Physical System Security (CPSSEC)."

Hatcliff, John M., Mizuno, Masaaki, and Neilsen, Mitchell L., US Department of the Interior, \$139,553, "Modeling Security/Safety Interactions in Buildings for Compositional Security/Safety Control."

Hsu, William H., and Carraway, Kurt J. (Salina Research and Engagement), Black & Veatch Corporation, \$40,150, "Image Analysis and Data Science: Aerial Survey of Street Insulators."

Hsu, William H., US Department of Energy, \$50,000, "Capability Inference based on Dynamic Topic Modeling and Text Information Extraction."

Mizuno, Masaaki, Hatcliff, John M., and Neilsen, Mitchell L., US Department of the Interior, \$143,782, "Modeling Security/Safety Interactions in Buildings for Compositional Security/Safety Control."

Neilsen, Mitchell L., Bill and Melinda Gates Foundation, \$35,000, "Mobile Application Development for High-throughput Phenotyping."

Neilsen, Mitchell L., and Poland, Jesse A. (Plant Pathology), National Science Foundation, \$7,500, "BREAD PHENO: High-Throughput Phenotyping with Smart Phones. #phenoApp."

Neilsen, Mitchell L., US Department of Energy, \$21,666, "Thermal Battery Model Interface Development."

Neilsen, Mitchell L., Hatcliff, John M., and Mizuno, Masaaki, US Department of the Interior, \$139,553, "Modeling Security/Safety Interactions in Buildings for Compositional Security/Safety Control."

Prabhakar, Pavithra, National Science Foundation, \$82,493, "CAREER: Robust Verification of Cyber-Physical Systems."

Ranganath, Venkatesh, Hatcliff, John M., and Robby, -, National Science Foundation, \$12,000, "FDA SIR: Architecturally-Integrated Hazard Analyses for Medical Application Platforms."

Robby, -, Hatcliff, John M., and Ranganath, Venkatesh, National Science Foundation, \$12,000, "FDA SIR: Architecturally-Integrated Hazard Analyses for Medical Application Platforms."

Robby, -, Hatcliff, John M., and Vasserman, Eugene, US Department of Defense, \$31,500, "Fault Injection and Analysis for Safety and Security."

Vasserman, Eugene, Hatcliff, John M., and Robby, -, US Department of Defense, \$42,000, "Fault Injection and Analysis for Safety and Security."

Vasserman, Eugene, and Hatcliff, John M., US Department of Homeland Security, \$61,001, "Cyber Physical System Security (CPSSEC)."

DEAN OF ENGINEERING

Bitsie-Baldwin, LaVerne, and Clark, Gary A., National Action Council for Minorities in Engineering, \$67,500, "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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), 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, \$67,500, "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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$350,000, "University Engineering Initiative Act (UEIA)."

ELECTRICAL AND COMPUTER ENGINEERING

Das, Sanjoy, Flippo, Daniel (Biological and Agricultural Engineering), **Sharda, Ajay** (Biological and Agricultural Engineering), **Temme, Arnaud** (Geography), and **Welch, Stephen M.** (Agronomy), US Department of Agriculture, \$188,511, "NRI: INT: Multi-Robot Farming on Marginal, Highly Sloped Lands."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Gruenbacher, Don M., Brase, Gary (Psychological Sciences), **DeLoach, Scott A.** (Computer Science), **Heier Stamm, Jessica L.** (Industrial and Manufacturing Systems Engineering), and **Scoglio, Caterina M.**, National Science Foundation, \$22,636, "SSDIM: EAGER: Data Generation for the Coupled System Composed of the Beef Cattle Production Infrastructure and the Transportation Services Infrastructure in Southwestern Kansas."

Gruenbacher, Don M., Kuhn, William B., and Peterson, Garrett S., US Department of Energy, \$49,500, "High-Frequency Electronics in Advanced PC Board Technologies."

Kim, Jungkwun, Leejo Co. Ltd., \$7,000, "Planning International Joint R & D Tasks and Finding Overseas Partners for Developing Fine Precision Metal 3D Printer and Its Applications."

Kim, Sungo, and **Little, Christopher R.** (Plant Pathology), Kansas Soybean Commission, \$40,000, "Plasma-activated Irrigation for Improving Soybean Development and Disease Tolerance."

Kuhn, William B., **Gruenbacher, Don M.**, and **Peterson, Garrett S.**, US Department of Energy, \$66,000, "High-Frequency Electronics in Advanced PC Board Technologies."

Miller, Ruth D., and **White, Warren N.** (Mechanical and Nuclear Engineering), US Department of Energy, \$5,000, "Kansas State University Wind Turbine Design Team 2018."

Natarajan, Balasubramaniam, Black & Veatch Corporation, \$58,095, "Modeling and Predictive Analysis of Springfield Sanitary Sewer System from a Machine/Statistical Learning Perspective."

Natarajan, Balasubramaniam, National Science Foundation, \$15,000, "NSF Student Travel Grant for 2018 IEEE International Conference on Sensing, Communication and Networking (IEEE SeCON)."

Pahwa, Anil, National Science Foundation, \$246,174, "National Science Foundation - Intergovernmental Personnel Act."

Pahwa, Anil, Sunflower Electric Power Corp. & Electric Power Research Ins, \$61,789, "Thermal Loading to Prevent Ice on Transmission Lines."

Peterson, Garrett S., **Gruenbacher, Don M.**, and **Kuhn, William B.**, US Department of Energy, \$49,500, "High-Frequency Electronics in Advanced PC Board Technologies."

Prakash, Punit, Hologic, Inc., \$89,895, "Investigation of Microwave Endometrial Ablation (MEA): Phase III."

Prakash, Punit, Hologic, Inc., \$58,410, "Investigation of Microwaves for Thermally Mediated Tissue Remodeling with Application to Treatment of Stress Urinary Incontinence."

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, \$321,353, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Scoglio, Caterina M., **Brase, Gary** (Psychological Sciences), **DeLoach, Scott A.** (Computer Science), **Gruenbacher, Don M.**, and **Heier Stamm, Jessica L.** (Industrial and Manufacturing Systems Engineering), National Science Foundation, \$87,060, "SSDIM: EAGER: Data Generation for the Coupled System Composed of the Beef Cattle Production Infrastructure and the Transportation Services Infrastructure in Southwestern Kansas."

Scoglio, Caterina M., **Burton, Kenneth R.** (National Agricultural Biosecurity Center), **Lockhart, Caryl Y.** (Diagnostic Medicine/Pathobiology), **Richt, Juergen** (Diagnostic Medicine/Pathobiology), and **Sebhatu, Tesfaalem T.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$7,377, "In-depth Investigation of the Epidemiology of Rift Valley Fever Outbreak in Kabale District, Uganda."

Scoglio, Caterina M., US Department of Agriculture, \$65,925, "Long-distance Dispersal and Disease Outbreaks: Effects of Initial Prevalence, Basic Reproduction Number, and Control Tactics."

Shadmand, Mohammad B., Qatar Foundation, \$63,610, "1-MW PV Power RD&D Using SiC-based qZS Cascade Multilevel Inverter and Battery Energy Storage."

Thompson, David E., US Department of Energy, \$86,780, "Real-Time Navigation System Simulation Advancement."

Wu, Hongyu, US Department of Energy, \$10,283, "HEMS Code to Support IESM Upgrades."

Wu, Hongyu, US Department of Energy, \$9,996, "HEMS Code to Support Smart Home Hardware-in-the-Loop Experiments."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING

Easton, Todd W., US Department of Defense, \$26,779, "Implementing Polyhedral Clustering in a Machine Learning Environment for Cybersecurity."

Heier Stamm, Jessica L., Brase, Gary (Psychological Sciences), **DeLoach, Scott A.** (Computer Science), **Gruenbacher, Don M.** (Electrical and Computer Engineering), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), National Science Foundation, \$20,894, "SSDIM: EAGER: Data Generation for the Coupled System Composed of the Beef Cattle Production Infrastructure and the Transportation Services Infrastructure in Southwestern Kansas."

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), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Kramer, Bradley A., National Science Foundation, \$49,540, "2018 NSF CAREER Proposal Writing Workshop."

Lin, Dong, Johnson Center for Basic Cancer Research, \$24,000, "3D Printing Biomimetic Bone Structure with Hierarchical and Interconnected Porosity for Breast Cancer Metastasis."

Lin, Dong, National Science Foundation, \$137,630, "3D Printing Biomimetic and Hierarchical Wood Structure for Endosphere Microbiome Study."

Sinha, Ashesh K., Schneider Enterprise Resources, LLC, \$158,525, "Dispatch Strategies in Intermodal Transportation: A Feasibility and Validation Study."

Zhang, Meng (Peter), National Science Foundation, \$82,689, "Collaborative Research: Creating An Upper Division Additive Manufacturing Course and Laboratory for Enhancing Undergraduate Research and Innovation."

INSTITUTE FOR ENVIRONMENTAL RESEARCH

Eckels, Steven J., Support Funds, \$19,425, "Thermal Properties of Textile Products."

Eckels, Steven J., Bindra, Hitesh (Mechanical and Nuclear Engineering), and **McGregor, Douglas S.** (Mechanical and Nuclear Engineering), US Department of Energy, \$217,600, "Influence of Dissolved Salts and Impurities in Seawater on Heat Transfer Degradation and Fluid Flow Through Fuel Channels Debris Bed."

KANSAS INDUSTRIAL EXTENSION SERVICES

Carter, David A., Cook, Yvonne C., and Hamel, Ryan J., Blue Cross and Blue Shield of Kansas, \$41,580, "Small Business Energy Assessments for Blue Cross/Blue Shield."

Carter, David A., Cook, Yvonne C., and Hamel, Ryan J., Kansas Corporation Commission, \$22,500, "KCC and Kansas State University Energy Education Services."

Carter, David A., National Renewable Energy Laboratory, \$10,000, "Wind for Schools."

Carter, David A., Cook, Yvonne C., and Hamel, Ryan J., US Department of Energy, \$171,978, "KCC and Kansas State University Energy Education Services."

Cook, Yvonne C., Carter, David A., and Hamel, Ryan J., Blue Cross and Blue Shield of Kansas, \$42,840, "Small Business Energy Assessments for Blue Cross/Blue Shield."

Cook, Yvonne C., Carter, David A., and Hamel, Ryan J., Kansas Corporation Commission, \$11,250, "KCC and Kansas State University Energy Education Services."

Cook, Yvonne C., Carter, David A., and Hamel, Ryan J., US Department of Energy, \$85,989, "KCC and Kansas State University Energy Education Services."

Goode, Barbara L., Prairie Band Potawatomi Nation, \$7,100, "Environmental Compliance and Pollution Prevention Assessment, Road and Bridge Property."

Goode, Barbara L., and Larson, Nancy J., US Department of Agriculture, \$61,363 (includes \$15,955 from In-Kind), "Providing Technical Assistance and Training to Rural Entities to Reduce Food Loss and Find Alternatives to Landfilling Food Waste."

Goode, Barbara L., and Larson, Nancy J., US Environmental Protection Agency, \$21,250, "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., Blue Cross and Blue Shield of Kansas, \$41,580, "Small Business Energy Assessments for Blue Cross/Blue Shield."

Hamel, Ryan J., Carter, David A., and Cook, Yvonne C., Kansas Corporation Commission, \$11,250, "KCC and Kansas State University Energy Education Services."

Hamel, Ryan J., Carter, David A., and Cook, Yvonne C., US Department of Energy, \$85,989, "KCC and Kansas State University Energy Education Services."

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, \$116,114 (includes \$45,000 from In-Kind Support), "Radon Projects for Kansas."

Larson, Nancy J., Centers for Disease Control and Prevention, \$27,500, "Kansas Food Recovery Technical Assistance Partnership."

Larson, Nancy J., Centers for Disease Control and Prevention, \$15,000, "Kansas Food Recovery Technical Assistance Partnership."

Larson, Nancy J., Kansas Department of Health and Environment, \$229,247, "Small Business Environmental Assistance Program 2018."

Larson, Nancy J., and Goode, Barbara L., US Department of Agriculture, \$61,363 (includes \$15,955 from In-Kind), "Providing Technical Assistance and Training to Rural Entities to Reduce Food Loss and Find Alternatives to Landfilling Food Waste."

Larson, Nancy J., and Goode, Barbara L., US Environmental Protection Agency, \$63,750, "Development and Management of the National Small Business Ombudsman/Small Business Environmental Assistance Provider 507 Program Website."

Larson, Nancy J., US Environmental Protection Agency, \$49,870, "Kansas Partners Identify and Implement P2 Strategies that Address National Emphasis Areas."

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, \$116,114 (includes \$45,000 from In-Kind Support), "Radon Projects for Kansas."

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

Babin, Bruce R., Honeywell Federal Manufacturing & Technologies, LLC, \$10,000, "GD&T Training Course."

Bahadori, Amir, and McNeil, Walter J., Honeywell Federal Manufacturing & Technologies, LLC, \$62,272, "Electronics X-Ray Inspection Shielding and Prediction Simulation."

Bahadori, Amir, and McNeil, Walter J., Honeywell Federal Manufacturing & Technologies, LLC, \$28,069, "Enhanced Gamma-Ray Diagnostics and Imaging."

Bahadori, Amir, and McNeil, Walter J., Honeywell Federal Manufacturing & Technologies, LLC, \$45,310, "Neutron Interrogation Imaging."

Bahadori, Amir, and Leseman, Zayd C., Kansas State University Foundation, \$10,000, "Miniaturized Neutron Spectrometer for Characterizing Cancer Risk."

Bahadori, Amir, KBRwyle, \$100,000, "Radiation Transport Simulations in Support of Active Shielding Measurement Campaign."

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, \$57,532, "Solid State Dual Neutron / X-Ray Imager."

Beck, B. Terry, and Peterman, Robert J. (Civil Engineering), US Department of Transportation, \$215,759 (includes \$2,500 from NUCOR), "Developing Qualification Tests to Ensure Proper Selection and Interaction of Pretensioned Concrete Railroad Tie Materials."

Betz, Amy R., and Derby, Melanie M., National Aeronautics and Space Administration, \$144,780, "17-EPSCoRProp-0037, Efficient and Compact Thermal and Water Management Systems using Novel Capillary Structure for Space Technology."

Betz, Amy R., National Science Foundation, \$9,500, "Collaborative Research: Understanding, Mitigating, and Controlling Frost Formation Through the Use of Bipilic and Hybrid Surfaces Under Static and Dynamic Conditions."

Betz, Amy R., National Science Foundation, \$230,617, "Research Initiation: The Formation of Engineering Students' Beliefs About Intelligence."

Bindra, Hitesh, US Department of Energy, \$49,238, "Experimental Investigation of Forced Convection and Natural Circulation Cooling of a VHTR Core under Normal Operation and Accident Scenario."

Bindra, Hitesh, Eckels, Steven J. (Institute for Environmental Research), and **McGregor, Douglas S.**, US Department of Energy, \$211,200, "Influence of Dissolved Salts and Impurities in Seawater on Heat Transfer Degradation and Fluid Flow Through Fuel Channels Debris Bed."

Derby, Melanie M., and Betz, Amy R., National Aeronautics and Space Administration, \$144,780, "17-EPSCoRProp-0037, Efficient and Compact Thermal and Water Management Systems using Novel Capillary Structure for Space Technology."

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), **Kramer, Bradley A.** (Industrial and Manufacturing Systems Engineering), **Maghirang, Ronaldo G.** (Engineering Experiment Station), and **Stokes, Robert W.** (Civil Engineering), Kansas Department of Commerce, \$315,000, "University Engineering Initiative Act (UEIA)."

Hosni, Mohammad H., US Department of Energy, \$177,500, "Nuclear Energy University Programs Fellowship and Scholarship Support."

Leseman, Zayd C., and **Bahadori, Amir**, Kansas State University Foundation, \$10,000, "Miniaturized Neutron Spectrometer for Characterizing Cancer Risk."

McGregor, Douglas S., US Department of Defense, \$208,087, "Portable System with Li-Foil NWPC Neutron Detectors."

McGregor, Douglas S., US Department of Energy, \$34,232, "Advanced Manufacturing of Micro Pocket Fission Detector (MPFD)."

McGregor, Douglas S., Reichenberger, Michael A., and Roberts, Jeremy A., US Department of Energy, \$43,802, "Develop an Active Sensor Array Prototype for Knolls Atomic Power Laboratory."

McGregor, Douglas S., Bindra, Hitesh, and Eckels, Steven J. (Institute for Environmental Research), US Department of Energy, \$211,200, "Influence of Dissolved Salts and Impurities in Seawater on Heat Transfer Degradation and Fluid Flow Through Fuel Channels Debris Bed."

McNeil, Walter J., and Bahadori, Amir, Honeywell Federal Manufacturing & Technologies, LLC, \$62,272, "Electronics X-Ray Inspection Shielding and Prediction Simulation."

McNeil, Walter J., and Bahadori, Amir, Honeywell Federal Manufacturing & Technologies, LLC, \$28,069, "Enhanced Gamma-Ray Diagnostics and Imaging."

McNeil, Walter J., and Bahadori, Amir, Honeywell Federal Manufacturing & Technologies, LLC, \$45,310, "Neutron Interrogation Imaging."

McNeil, Walter J., US Department of Defense, \$149,936, "Low-Profile HPGE Gama Ray Spectrometer for Radiological Detection, Localization, and Isotope Identification."

McNeil, Walter J., US Department of Defense, \$230,882, "Low-Profile PMT Scintillator Read-Out System."

McNeil, Walter J., US Department of Defense, \$130,000, "Radiological Systems Research for Detection, Localization, and Isotope Identification."

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, \$57,532, "Solid State Dual Neutron / X-Ray Imager."

Pacey, David A., FCA US LLC, \$15,000, "SRT Phase 2 -Senior Design I & II."

Reichenberger, Michael A., McGregor, Douglas S., and Roberts, Jeremy A., US Department of Energy, \$42,514, "Develop an Active Sensor Array Prototype for Knolls Atomic Power Laboratory."

Roberts, Jeremy A., McGregor, Douglas S., and Reichenberger, Michael A., US Department of Energy, \$42,514, "Develop an Active Sensor Array Prototype for Knolls Atomic Power Laboratory."

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, \$913,751, "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, US Army, \$40,000, "Comprehensive Reduced Order Modeling and Validations for Loads and Flight Stability of a Flapping Wing."

Wei, Mingjun, US Department of Defense, \$120,000, "(YIP) A Multiscale Morphing Continuum Analysis on Energy Cascade of Compressible Turbulence."

White, Warren N., and Miller, Ruth D. (Electrical and Computer Engineering), US Department of Energy, \$5,000, "Kansas State University Wind Turbine Design Team 2018."

NATIONAL GAS MACHINERY LABORATORY

Figge, Eric R., and Jones, Byron W., Pipeline Research Council International, Inc., \$25,000, "CEPM for Turbochargers."

Jones, Byron W., and Figge, Eric R., Pipeline Research Council International, Inc., \$25,000, "CEPM for Turbochargers."

COLLEGE OF HUMAN ECOLOGY

APPAREL, TEXTILES, AND INTERIOR DESIGN

Kaup, Migette L., Cornelison, Laci J. (Dean of Human Ecology), **Doll, Gayle** (Dean of Human Ecology), **Gfeller, Stephanie** (Dean of Human Ecology), and **Syme, Maggie L.** (Dean of Human Ecology), US Department of Health and Human Services, \$44,071, "PEAK 2.0 Evaluation."

Orthel, Bryan, National Endowment for the Arts, \$22,525, "Arrow Rock Lyceum Theatre Agreement."

Wu, Yingying, Gneiss Concepts, LLC, \$3,870, "Gneiss Concepts MOA."

Wu, Yingying, Human Solutions of North America, Inc., \$26,126, "Body Scanning Survey Services Agreement."

DEAN OF HUMAN ECOLOGY

Buckwalter, John, Cortez, Anita R. (Vice Provost for Undergraduate Studies), and **Olsen,**

Charlotte S. (School of Family Studies and Human Services), US Department of Health and Human Services, \$26,668, "Kansas Bridges to the Future."

Cornelison, Laci J., Doll, Gayle, Gfeller, Stephanie, Kaup, Migette L. (Apparel, Textiles, and Interior Design), and **Syme, Maggie L.**, US Department of Health and Human Services, \$146,902, "PEAK 2.0 Evaluation."

Doll, Gayle, Cornelison, Laci J., Gfeller, Stephanie, Kaup, Migette L. (Apparel, Textiles, and Interior Design), and **Syme, Maggie L.**, US Department of Health and Human Services, \$44,071, "PEAK 2.0 Evaluation."

Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, \$474,393, "Early Childhood Workforce Development Grant."

Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, \$90,705, "Kansas Child Care Training Opportunities."

Fees, Bronwyn S., Kansas Department for Children and Families, \$223,851, "KCCTO Statewide Infant -Toddler Specialist Network."

Gfeller, Stephanie, Cornelison, Laci J., Doll, Gayle, Kaup, Migette L. (Apparel, Textiles, and Interior Design), and **Syme, Maggie L.**, US Department of Health and Human Services, \$29,380, "PEAK 2.0 Evaluation."

Syme, Maggie L., Cornelison, Laci J., Doll, Gayle, Gfeller, Stephanie, and Kaup, Migette L. (Apparel, Textiles, and Interior Design), US Department of Health and Human Services, \$29,380, "PEAK 2.0 Evaluation."

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, \$207,914, "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, \$107,043, "Strengthening Relationships/Strengthening Families (SR/SF)."

FOOD, NUTRITION, DIETETICS AND HEALTH

Hanson, Jennifer, United States Tennis Association, \$750, "Tennis as a Platform for a Family-Based Multicomponent Program for Pediatric Weight Management."

Hanson, Jennifer, and Butler, Meredith A. (School of Family Studies and Human Services), US Department of Agriculture, \$417,150, "4-H Military Partnership and Outreach Support Program."

Hanson, Jennifer, US Department of Defense, \$26,450, "Memorandum of Agreement for Training and Education Services: AFPC/SVPY."

Haub, Mark D., and Rosenkranz, Sara, Isagenix International, LLC, \$667, "Determining the Impact of Meal Replacement Products on Human Blood Glucose Levels."

Haub, Mark D., Rosenkranz, Sara, and Shi, Yong Cheng (Grain Science and Industry), US Department of Agriculture, \$22,524, "Developing Novel Starch-based Ingredients and Understanding Relationship between Structure and Digestibility of Starch."

Koppel, Kadri, Shimadzu Scientific Instruments, \$62,000, "Shimadzu Equipment Proposal."

Koppel, Kadri, Aldrich, Greg (Grain Science and Industry), **Miller, Brandi M.** (Grain Science and Industry), and **Sexton-Bowser, Sarah A.** (Dean of Agriculture and Director of AES), US Department of Agriculture, \$36,926 (includes \$10,350 from Third-Party Match), "Reintroducing Kansas Grain to Midwest Pet Food Manufacturing and Processing Markets."

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."

Rosenkranz, Richard R., and Rosenkranz, Sara, Kansas State University Foundation, \$9,955, "Enhanced Health Promo in Girl Scouts thru Video-based Leader Wellness Training."

Rosenkranz, Richard R., US Department of Agriculture, \$31,764, "Dissemination of the Evidence-Based SWITCH Program for Childhood Obesity Prevention."

Rosenkranz, Richard R., US Department of Health and Human Services, \$15,200, "Whole-of-Community Systems Intervention for Youth Population Physical Activity."

Rosenkranz, Sara, and Haub, Mark D., Isagenix International, LLC, \$2,668, "Determining the Impact of Meal Replacement Products on Human Blood Glucose Levels."

Rosenkranz, Sara, and Rosenkranz, Richard R., Kansas State University Foundation, \$9,955, "Enhanced Health Promo in Girl Scouts thru Video-based Leader Wellness Training."

Rosenkranz, Sara, University of Kansas Medical Center Research Institute, Inc., \$6,840, "Effects of Dietary Modification on Exercise Induced Bronchoconstriction."

Rosenkranz, Sara, Haub, Mark D., and Shi, Yong Cheng (Grain Science and Industry), US Department of Agriculture, \$67,573, "Developing Novel Starch-based Ingredients and Understanding Relationship between Structure and Digestibility of Starch."

Sauer, Kevin L., Roberts, Kevin R. (Hospitality Management), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$270,000, "Center for Food Safety in Child Nutrition Programs."

Vardiman, John P., US Department of Defense, \$15,000, "Establishing Optimal Training Intervals for the Marine Corps Martial Arts Program (MCMAP) for Improvement in Physical Performance and Warrior Mindset."

Wang, Weiqun, US Department of Agriculture, \$20,000, "Determining the Bioavailability of Sorghum Phenolic Compounds."

HOSPITALITY MANAGEMENT

Jang, Jichul, and **Kwon, Junehee**, Kansas State University Foundation, \$2,185, "Improving Dining Satisfaction of Residents in Long-term Care Institution through Co-Creation of Menus (Juhyun Kang)."

Kwon, Junehee, Kansas State University Foundation, \$4,998, "Exploring Factors Leading to Customer Delight in Food and Beverage Services."

Kwon, Junehee, and **Jang, Jichul**, Kansas State University Foundation, \$2,185, "Improving Dining Satisfaction of Residents in Long-term Care Institution through Co-Creation of Menus (Juhyun Kang)."

Paez, Paola, Foodservice Systems Management Education Council, \$2,000, "Barriers of Effective Food Safety Performance: An Explanatory-Sequential Approach."

Roberts, Kevin R., Foodservice Systems Management Education Council, \$1,542, "Self-reported Food Safety Behavior in Independent Ethnic Restaurants: An Application of the Social Cognitive Theory (Basem Burtros)."

Roberts, Kevin R., **Sauer, Kevin L.** (Food, Nutrition, Dietetics and Health), and **Shanklin, Carol W.** (Dean of Graduate School), US Department of Agriculture, \$270,000, "Center for Food Safety in Child Nutrition Programs."

KINESIOLOGY

Ade, Carl, and **Barstow, Thomas J.**, National Aeronautics and Space Administration, \$130,799, "Identification of Aerobic Fitness Standards for Exploration Mission Tasks."

Ade, Carl, National Aeronautics and Space Administration, \$131,000, "Omics and Biochemical Markers of Cardiovascular and Bone Health: Relationship with Bedrest and Standard Physiological Measures."

Barstow, Thomas J., and **Ade, Carl**, National Aeronautics and Space Administration, \$130,799, "Identification of Aerobic Fitness Standards for Exploration Mission Tasks."

Barstow, Thomas J., **Flippo, Daniel** (Biological and Agricultural Engineering), **Gonzalez, John M.** (Animal Sciences and Industry), **Rozell, Timothy G.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), US Department of Agriculture, \$6,250, "Effect of Transport Trailer Vibration on Muscle Fatigue and the Non-ambulatory Condition."

Behnke, Brad J., and **Poole, David C.**, US Department of Health and Human Services, \$364,010, "Novel Strategies to Prevent Respiratory Muscle Vascular Dysfunction with Mechanical Ventilation."

Harms, Craig A., and **Heinrich, Katie M.**, US Department of Health and Human Services, \$49,725, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Heinrich, Katie M., The Mindlin Foundation, \$5,000, "Undergraduate Mentored Research Brady Kurtz."

Heinrich, Katie M., and Harms, Craig A., US Department of Health and Human Services, \$447,529, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Poole, David C., and Behnke, Brad J., US Department of Health and Human Services, \$50,051, "Novel Strategies to Prevent Respiratory Muscle Vascular Dysfunction with Mechanical Ventilation."

SCHOOL OF FAMILY STUDIES AND HUMAN SERVICES

Anderson, Jared R., and Stith, Sandra M., US Department of Agriculture, \$191,100, "KSU/USAF 2017 FAP Research Project."

Butler, Meredith A., and Hanson, Jennifer (Food, Nutrition, Dietetics and Health), US Department of Agriculture, \$2,363,850, "4-H Military Partnership and Outreach Support Program."

Butler, Meredith A., US Department of Agriculture, \$450,000, "CYFAR 4-H Military Partnership Professional Development and Technical Assistance Program."

Durtschi, Jared A., US Department of Health and Human Services, \$1,500, "Determining Functional Components of an Evidence-Based Parenting Intervention."

Garcia, Jane M., Kansas State University Foundation, \$4,000, "Improving the Quality and Consistency of Nutrition Care for 5,000,000 Americans with Swallowing Disorders: Impact on Speech-Language Pathologists (Anna Boyer)."

Jager, Shanna K., US Department of Health and Human Services, \$602,687, "Technical Support for the Department for Children and Families Strategic Development, Faith-Based and Community Initiative."

Johannes, Elaine M., and Yelland, Erin L., Centers for Disease Control and Prevention, \$12,486, "Kansas Health Extension Project."

Johannes, Elaine M., and Yelland, Erin L., US Department of Agriculture, \$126,953, "Kansas Masters Health Volunteers."

Johannes, Elaine M., Bolton, Debra (Southwest Area Office), **Kiss, D. Elizabeth,** and **Wiles, Bradford B.,** US Department of Health and Human Services, \$97,886, "Connecting Kids to Coverage: Outreach and Enrollment Cooperative Agreement."

Johannes, Elaine M., Toews, Michelle L. (Dean of Human Ecology), and **Vennum, Amber V.,** US Department of Health and Human Services, \$46,203, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

Kiss, D. Elizabeth, Bolton, Debra (Southwest Area Office), **Johannes, Elaine M.,** and **Wiles, Bradford B.,** US Department of Health and Human Services, \$146,829, "Connecting Kids to Coverage: Outreach and Enrollment Cooperative Agreement."

Lutter, Sonya L., Dunn, Erin C. (Intercollegiate Athletics Local), and **Rubin, Lisa** (Special Education, Counseling, and Student Affairs), National Collegiate Athletic Association, \$3,300, "NCAA Athletes and Cost of Attendance Money: Spending and Financial Literacy."

Lutter, Sonya L., Thrivent Financial for Lutherans (brightpeak), \$10,000, "Love and Money Curriculum."

Olsen, Charlotte S., 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."

Stith, Sandra M., Family Process Institute, \$3,860, "A Meta-Analysis of Risk Factors for Intimate partner Homicide: Dissertation Grant Proposal (Chelsea Spencer)."

Stith, Sandra M., and **Anderson, Jared R.**, US Department of Agriculture, \$1,719,900, "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, \$207,914, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

Wiles, Bradford B., and **Tynon, Erin K.** (County Agents-Northeast Sector), US Department of Agriculture, \$18,750, "Quality, Affordable Child Care as Economic Development in Rural Communities."

Wiles, Bradford B., Bolton, Debra (Southwest Area Office), **Johannes, Elaine M.**, and **Kiss, D. Elizabeth**, US Department of Health and Human Services, \$146,829, "Connecting Kids to Coverage: Outreach and Enrollment Cooperative Agreement."

Yelland, Erin L., and **Johannes, Elaine M.**, Centers for Disease Control and Prevention, \$12,486, "Kansas Health Extension Project."

Yelland, Erin L., and **Johannes, Elaine M.**, US Department of Agriculture, \$190,430, "Kansas Masters Health Volunteers."

Yelland, Erin L., US Department of Agriculture, \$24,655, "North Central Region Aging Network Toolkit Development."

COLLEGE OF VETERINARY MEDICINE

ANATOMY AND PHYSIOLOGY

Choi, Seongo, Korean Institute for the Advancement of Technology, \$11,000, "A Feasibility Study for the Development of Dissolving Microneedles Containing Biopharmaceuticals with Improved Stability and Bioavailability."

Choi, Seongo, QuadMedicine, \$99,999, "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., and **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), Kansas City Area Life Sciences Institute, \$5,000, "Assay Development and Validation for Intraerythrocytic Pathogen Drug Screening."

Coetzee, Johann F., and **Blasi, Dale A.** (Animal Sciences and Industry), Merck Animal Health, \$59,928, "A Field Study to Investigate the Effect of Analgesia on the Health and Performance of Transported Middle-weight Feedlot Calves on Arrival at the Feedlot."

Coetzee, Johann F., **Amachawadi, Raghavendra G.** (Clinical Sciences), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Reppert, Emily** (Clinical Sciences), **Shuman, Cindy** (Dean of Education), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$119,995, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Coetzee, Johann F., **Lin, Zhoumeng**, and **Tarpoff, Anthony J.** (Animal Sciences and Industry), US Department of Agriculture, \$28,744, "Mitigation of Fluoroquinolone-resistant *Campylobacter* in Cattle."

Coetzee, Johann F., US Department of Agriculture, \$500,000, "Optimizing an Immunocastration Vaccine Ear Implant to Prevent Pain Associated with Bovine Castration."

Comer, Jeffrey R., and **Tamura, Masaaki**, euglena Co., Ltd, \$6,140, "The Study of the T Cell Activation Potential of the Paramylon from *Euglena Gracilis*."

Comer, Jeffrey R., **McGill, Jodi L.** (Diagnostic Medicine/Pathobiology), **Tamura, Masaaki**, and **Yang, Zhilong** (Biology), Kansas State University Foundation, \$5,250, "2017 Innovation Research Award."

Comer, Jeffrey R., **Aikens, Christine M.** (Chemistry), **Andresen, Daniel A.** (Computer Science), **Liu, Bin** (Chemical Engineering), **Schmit, Jeremy D.** (Physics), and **Smith, Paul E.** (Chemistry), National Science Foundation, \$59,500, "MRI: Acquisition of a GPU-Enabled Compute Cluster for Molecular Modeling Applications."

Comer, Jeffrey R., **McGill, Jodi L.** (Diagnostic Medicine/Pathobiology), and **Tamura, Masaaki**, US Department of Health and Human Services, \$140,600, "Cancer-targeted Local Pulmonary Immunotherapy with PD-L1 Inhibitory Peptide Secretory Genes for the Treatment of Lung Cancer."

DeLong, Robert K., Kansas State University Foundation, \$11,000, "2017 Innovation Research Award."

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."

Fong, Peking, Kansas State University Foundation, \$11,000, "2017 Innovative Research Award."

Gehring, Ronette, and Volkova, Victoriya (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$7,434, "Investigating Pharmacodynamics of Antimicrobials against Bacteria Accumulating Resistance."

Kukanich, Stanley P., KuKanich, Katherine (Clinical Sciences), and **Rankin, David** (Clinical Sciences), American Veterinary Medical Association Foundation, \$17,330, "Development of an Abuse Resistant Analgesic for Dogs with Moderate to Severe Pain."

Lillich, James D., Fang, Ying (Diagnostic Medicine/Pathobiology), **Henningson, Jamie N.** (Veterinary Diagnostic Laboratory), and **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$45,600, "Establish a Pregnant Sow Model for Assessment of Influenza Vaccine Safety and Efficacy During Pregnancy."

Lin, Zhoumeng, US Department of Agriculture, \$100,000, "Food Animal Residue Avoidance Databank (FARAD)."

Lin, Zhoumeng, Coetzee, Johann F., and Tarpoff, Anthony J. (Animal Sciences and Industry), US Department of Agriculture, \$16,908, "Mitigation of Fluoroquinolone-resistant *Campylobacter* in Cattle."

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-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."

Poole, David C., and Behnke, Brad J. (Kinesiology), US Department of Health and Human Services, \$40,951, "Novel Strategies to Prevent Respiratory Muscle Vascular Dysfunction with Mechanical Ventilation."

Schultz, Bruce D., and Wangemann, A. Philine, US Department of Health and Human Services, \$16,377, "BRITE Veterinary Student Program."

Schultz, Bruce D., Davis, Elizabeth G. (Clinical Sciences), and **Nguyen, Thu A.** (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$301, "Short Term Training in Health Professional Schools."

Shi, Jishu N., and Wang, Lihua, National Pork Board, \$83,250, "Development and Validation of Two Anti-CSFV-specific Antibody Competitive ELISAs with an Emphasis on the Differentiation of Infected from Vaccinated Animals."

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."

Tamura, Masaaki, euglena Co., Ltd, \$5,987, "Evaluation of the Effect of Euglena Water Extract on the Growth of Lung Tumor."

Tamura, Masaaki, and **Comer, Jeffrey R.**, euglena Co., Ltd, \$14,328, "The Study of the T Cell Activation Potential of the Paramylon from Euglena Gracilis."

Tamura, Masaaki, Comer, Jeffrey R., McGill, Jodi L. (Diagnostic Medicine/Pathobiology), and **Yang, Zhilong** (Biology), Kansas State University Foundation, \$5,250, "2017 Innovation Research Award."

Tamura, Masaaki, Comer, Jeffrey R., and McGill, Jodi L. (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$239,400, "Cancer-targeted Local Pulmonary Immunotherapy with PD-L1 Inhibitory Peptide Secretory Genes for the Treatment of Lung Cancer."

Wang, Lihua, and **Shi, Jishu N.**, National Pork Board, \$9,250, "Development and Validation of Two Anti-CSFV-specific Antibody Competitive ELISAs with an Emphasis on the Differentiation of Infected from Vaccinated Animals."

Wangemann, A. Philine, and **Schultz, Bruce D.**, US Department of Health and Human Services, \$16,377, "BRITE Veterinary Student Program."

Weiss, Mark L., Cellphire, Inc., \$56,000, "Evaluate Human Freeze Dried Human Platelet Product, Thrombosomes® for use in Expansion of Human Mesenchymal Stromal Cells (MSCs) and Isolation of MSCs."

Weiss, Mark L., MediVet Biologics, \$5,100, "Evaluation of 3 Naïve Canine UC-MSC Lines for TLR3 and TLR4 Expression."

Xiong, Yulan, American Parkinson Disease Association Inc., \$50,000, "Functional Analysis of LRRK2 Enzymatic Activities with Aging."

Xiong, Yulan, William N. and Bernice E. Bumpus Foundation, \$50,000, "Identification and Characterization of the LRRK2 Guanine Nucleotide-Exchange Factor (GEF)."

CLINICAL SCIENCES

Amachawadi, Raghavendra G., and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Lallemand Specialties Inc., \$11,203, "Evaluation of Antimicrobial Activity of Lallemand's Microbial Cultures."

Amachawadi, Raghavendra G., Bai, Jianfa (Veterinary Diagnostic Laboratory), **DeRouchey, Joel M.** (Animal Sciences and Industry), **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.** (Animal Sciences and Industry), **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board,

\$18,779, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

Amachawadi, Raghavendra G., Apley, Michael D., Lubbers, Brian (Veterinary Diagnostic Laboratory), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$8,645, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Amachawadi, Raghavendra G., Coetzee, Johann F. (Anatomy and Physiology), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Reppert, Emily, Shuman, Cindy** (Dean of Education), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$59,997, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Apley, Michael D., Amachawadi, Raghavendra G., Lubbers, Brian (Veterinary Diagnostic Laboratory), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$1,235, "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., Biller, David S., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and **Prakash, Punit** (Electrical and Computer Engineering), US Department of Health and Human Services, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

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, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Davis, Elizabeth G., and Rush, Bonnie R. (Dean of Veterinary Medical Center), PetSmart Charities, \$118,254, "Shelter Medicine Program at Kansas State University."

Davis, Elizabeth G., Nguyen, Thu A. (Diagnostic Medicine/Pathobiology), and **Schultz, Bruce D.** (Anatomy and Physiology), US Department of Health and Human Services, \$292, "Short Term Training in Health Professional Schools."

Eshar, David, Meekins, Jessica, and Thomason, Justin D., Association of Exotic Mammal Veterinarians, \$2,760, "Comparison of Dexmedetomidine-Ketamine with Isoflurane for Anesthesia of Black-tailed Prairie Dogs (*Cynomys ludvicianus*)."

Higginbotham, Mary Lynn, and Wouda, Raelene, Johnson Center for Basic Cancer Research, \$2,400, "Center of Excellence Planning Grant on Veterinary Oncology."

Higginbotham, Mary Lynn, and Wouda, Raelene, Morris Animal Foundation, \$2,466, "D16CA-518: A Contemporaneous Controlled Study of the Standard of Care (SOC) in Dogs with Appendicular Osteosarcoma."

Higginbotham, Mary Lynn, Coffee, Calli (Veterinary Health Center), **Sheppard, Sabina P.** (Veterinary Health Center), and **Wouda, Raelene**, Morris Animal Foundation, \$8,359, "The Use of a Recombinant, Attenuated *Listeria Monocytogenes* Expressing a Chimeric Human HER2/neu Protein to Prevent Metastatic Osteosarcoma."

KuKanich, Katherine, Kukanich, Stanley P. (Anatomy and Physiology), and **Rankin, David**, American Veterinary Medical Association Foundation, \$4,951, "Development of an Abuse Resistant Analgesic for Dogs with Moderate to Severe Pain."

Larson, Robert L., Amrine, David E. (Dean of Veterinary Medical Center), and **White, Bradley J.** (Dean of Veterinary Medical Center), Academy of Veterinary Consultants, \$9,899, "Online Continuing Education for Academy of Veterinary Consultants."

Meekins, Jessica, Eshar, David, and **Thomason, Justin D.**, Association of Exotic Mammal Veterinarians, \$920, "Comparison of Dexmedetomidine-Ketamine with Isoflurane for Anesthesia of Black-tailed Prairie Dogs (*Cynomys ludvicianus*)."

Rankin, David, KuKanich, Katherine, and **Kukanich, Stanley P.** (Anatomy and Physiology), American Veterinary Medical Association Foundation, \$2,476, "Development of an Abuse Resistant Analgesic for Dogs with Moderate to Severe Pain."

Reppert, Emily, Amachawadi, Raghavendra G., Coetzee, Johann F. (Anatomy and Physiology), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Shuman, Cindy** (Dean of Education), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$59,997, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Schermerhorn, Thomas, Baycom Diagnostic LLC, \$15,000, "Investigation of Blood HbA1c as a Marker for Glucose Control in Diabetic Dogs."

Thomason, Justin D., Eshar, David, and **Meekins, Jessica**, Association of Exotic Mammal Veterinarians, \$920, "Comparison of Dexmedetomidine-Ketamine with Isoflurane for Anesthesia of Black-tailed Prairie Dogs (*Cynomys ludvicianus*)."

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, \$108,878, "Exposure Heterogeneity and Environmental Transmission Dynamics of *Escherichia coli*: Linking Mechanisms and Patterns."

Wouda, Raelene, and **Higginbotham, Mary Lynn**, Johnson Center for Basic Cancer Research, \$3,600, "Center of Excellence Planning Grant on Veterinary Oncology."

Wouda, Raelene, and **Higginbotham, Mary Lynn**, Morris Animal Foundation, \$2,466, "D16CA-518: A Contemporaneous Controlled Study of the Standard of Care (SOC) in Dogs with Appendicular Osteosarcoma."

Wouda, Raelene, Coffee, Calli (Veterinary Health Center), **Higginbotham, Mary Lynn**, and **Sheppard, Sabina P.** (Veterinary Health Center), Morris Animal Foundation, \$8,359, "The Use of a Recombinant, Attenuated *Listeria Monocytogenes* Expressing a Chimeric Human HER2/neu Protein to Prevent Metastatic Osteosarcoma."

DEAN OF VETERINARY MEDICAL CENTER

Amrine, David E., Larson, Robert L. (Clinical Sciences), and **White, Bradley J.**, Academy of Veterinary Consultants, \$9,899, "Online Continuing Education for Academy of Veterinary Consultants."

Beckham, Tammy R., US Department of Defense, \$495,569, "Intergovernmental Personnel Act Agreement with DTRA."

Blecha, Frank, Shi, Jishu N. (Anatomy and Physiology), and **Wang, Lei**, Zoetis LLC, \$20,000, "International Veterinary Collaboration for China DVM Program."

Rush, Bonnie R., and **Davis, Elizabeth G.** (Clinical Sciences), PetSmart Charities, \$118,254, "Shelter Medicine Program at Kansas State University."

Sebhatu, Tesfaalem T., Burton, Kenneth R. (National Agricultural Biosecurity Center), **Lockhart, Caryl Y.** (Diagnostic Medicine/Pathobiology), **Richt, Juergen** (Diagnostic Medicine/Pathobiology), and **Scoglio, Caterina M.** (Electrical and Computer Engineering), US Department of Agriculture, \$15,530, "In-depth Investigation of the Epidemiology of Rift Valley Fever Outbreak in Kabale District, Uganda."

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., and **Larson, Robert L.** (Clinical Sciences), Academy of Veterinary Consultants, \$10,199, "Online Continuing Education for Academy of Veterinary Consultants."

White, Bradley J., American Association of Small Ruminant Practitioners, \$9,600, "Creation of Online Education modules for the American Association of Small Ruminant Practitioners."

White, Bradley J., Boehringer Ingelheim, \$95,000, "Development of Web-based risk Analysis Calculator for trichomoniasis in Cattle."

White, Bradley J., Kansas Department of Agriculture, \$85,800, "Kansas Cattle Traceability Pilot Project."

White, Bradley J., Amachawadi, Raghavendra G. (Clinical Sciences), **Coetzee, Johann F.** (Anatomy and Physiology), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Reppert, Emily** (Clinical Sciences), and **Shuman, Cindy** (Dean of Education), US Department of Agriculture, \$59,997, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

White, Bradley J., US Department of Agriculture, \$50,000, "Validation of Within-farm Disease-spread Model in InterSpread Plus with Data Collected from US Feedlots."

DIAGNOSTIC MEDICINE/PATHOBIOLOGY

Cernicchiaro, Natalia, Nagaraja, Tiruvoor G., and Renter, David G., Legacy Animal Nutrition, \$58,061, "Randomized Complete Block Design to Evaluate the Efficacy of BactaShield at Reducing Shedding of Escherichia coli O157:H7 in Feces of Commercial Finishing Cattle."

Cernicchiaro, Natalia, and Renter, David G., Zoetis LLC, \$81,097, "Various Zoetis Projects for 2017-2018."

Chang, Kyeong-Ok, and Kim, Yunjeong, Median Diagnostics, Inc., \$10,500, "Protease-Activated Receptor-2 Inhibitors for Treating Dermatitis in Dogs."

Chang, Kyeong-Ok, US Department of Health and Human Services, \$734,295, "Norovirus 3CL Protease-Based Anti-Norovirus Therapeutics."

Chang, Kyeong-Ok, and Kim, Yunjeong, US Department of Health and Human Services, \$387,958, "Small Molecule Protease Inhibitors against MERS-CoV."

Cino Ozuna, Ada G., US Department of Health and Human Services, \$50,533, "Expanding the Utility of Severe Combined Immuno-deficient (SCID) Pig Models."

Davis, A. Sally, US Department of Agriculture, \$69,350, "Development of Tools for the Pathological Characterization of Rift Valley Fever Virus Infection."

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 Co., Inc, \$4,000, "Histidine: Lysine Requirement for 15 to 25 lb 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), Ajinomoto Co., Inc, \$4,000, "Influence of Fermentation Byproduct on Urine pH."

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), Biomune Company, \$26,230, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

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), Biomune Company, \$21,193, "Effect of GleptoForte Fe Injection Dosage in Newborn Piglets."

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, \$17,800, "Studies to Evaluate the Effects of Phytase in Swine Diets or Premixes."

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), JBS USA, \$12,000, "JBS Live Park Applied Swine Nutrition Fellowship."

Dritz, Steven S., Drouillard, James S. (Animal Sciences and Industry), **Lattimer, James M.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Kansas Corn Commission, \$8,400, "Synthesis of High-value Feed Additives through Fermentation of Biofuels Co-products."

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), Kemin Industries, \$5,000, "Evaluation of a Medium Chain Fatty Acid (MCFA) Based Ingredient in Nursey Pig 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), Lincolnway Energy, LLC, \$8,000, "Effects of High Protein DDGS 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), Micronutrients, \$13,800, "Effects of Feeding Increasing Levels of Iron from Either Iron Sulfate or a New Source of Dietary Iron on Growth Performance and Iron Status 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), Micronutrients, \$5,000, "Effects of Increasing Levels of Zn from Zinc Sulfate or Intellibond Z 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), Minnesota Pork Board, \$20,731 (includes \$7,000 from Third Party Match), "Supplying Increased SID Lys and Energy During Transition to Improve Piglet Survivability, Sow Productivity, and Litter Performance."

Dritz, Steven S., Hefley, Trevor (Statistics), **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, \$10,183, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **O'Quinn, Travis G.** (Animal Sciences and Industry), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and

Industry), National Pork Board, \$20,839, "Projecting Changes in Pork Quality, Eating Experience, and Muscle Physiology due to Increasing Carcass Weights."

Dritz, Steven S., Amachawadi, Raghavendra G. (Clinical Sciences), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **DeRouchey, Joel M.** (Animal Sciences and Industry), **Goodband, Robert D.** (Animal Sciences and Industry), **Nagaraja, Tiruvoor G., Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$4,695, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

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), Ocean Harvest Technology Limited, \$15,720, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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.), \$5,600, "Determining the Effects of Different Ca:P Ratios on Growth Performance, Carcass Characteristics, Bone Mineralization, 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), Purco, \$10,800, "PURCO Project."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Purina Animal Nutrition, LLC, \$3,564, "PMI Nutritional Additives: Assessing the Effects of MCFA on PEDV Quantity and Infectivity."

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), Quality Technology International, Inc., \$10,000, "Effect of CALSPORIN on Sow Fecal Microflora and Piglet Growth Performance, Fecal Consistency, and Fecal Microflora until the Nursery Phase."

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, \$5,321, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan** (Veterinary Diagnostic Laboratory), **Paulk, Chad B.** (Grain Science and Industry), **Rowland, Raymond R. R., Trinetta, Valentina** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$1,075, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Dryden, Michael W., and Herrin, Brian, Elanco Animal Health, \$63,249, "Lotilaner and Spinosad to Control Flea Populations on Naturally Infested Dogs in Private Residences in West Central FL USA."

Dryden, Michael W., Merck Animal Health, \$180,500, "Support Funds: Evidence Based Small Animal Clinical Parasitology Training Course."

Fang, Ying, CPG Overseas Company Limited, \$22,680, "PRRSV IFA and qTR-PCR Test."

Fang, Ying, Hesse, Richard, and Marthaler, Douglas (Veterinary Diagnostic Laboratory), National Pork Board, \$30,720, "The Effect of Natural Planned Exposure on Sow Immunity and Passive Immunity in their Piglets via Genotype Specific Rotavirus A and C ELISA."

Fang, Ying, Anderson, Gary A. (Veterinary Diagnostic Laboratory), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **Li, Yanhua, Liu, Xuming** (Veterinary Diagnostic Laboratory), and **Peddireddi, Lalitha** (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$10,080, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Fang, Ying, and Marthaler, Douglas (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$21,025, "Development and validation of a rapid ELISA to detect IgA, IgM and IgG in serum and oral fluids to porcine teschovirus."

Fang, Ying, and Marthaler, Douglas (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$33,017, "Development and validation of ELISA IgA, IgM and IgG in serum and oral fluids to porcine Sapelovirus."

Fang, Ying, Anderson, Gary A. (Veterinary Diagnostic Laboratory), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **Li, Yanhua, Liu, Xuming** (Veterinary Diagnostic Laboratory), **Ma, Wenjun**, and **Peddireddi, Lalitha** (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$21,220, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

Fang, Ying, Henningson, Jamie N. (Veterinary Diagnostic Laboratory), **Lillich, James D.** (Anatomy and Physiology), and **Rowland, Raymond R. R.**, US Department of Health and Human Services, \$319,200, "Establish a Pregnant Sow Model for Assessment of Influenza Vaccine Safety and Efficacy During Pregnancy."

Ganta, Roman Reddy R., ABAXIS, Inc., \$375,572, "Indirect Fluorescent Antibody Test Assessment of Ehrlichia, Anaplasma and Borrelia Species Infections in Dogs."

Ganta, Roman Reddy R., Merial Limited, \$66,386, "Evaluation of Clinical Protection Afforded by Prototypes Vaccines in Ehrlichia Canis Laboratory Model in Dogs."

Ganta, Roman Reddy R., Saint George's University, \$60,000, "Postdoctoral Scholars Program (PSP) Training Grant."

Ganta, Roman Reddy R., US Department of Health and Human Services, \$18,289, "Mentor for Dr. Jodi McGill KU COBRE Renewal."

Ganta, Roman Reddy R., US Department of Health and Human Services, \$441,044, "Vector and Host Contributions to the Regulation of *E. chaffeensis* Gene Expression."

Hardwidge, Philip R., US Department of Health and Human Services, \$225,000, "Functions of Translocated Bacterial Glycosyltransferases."

Herrin, Brian, and **Dryden, Michael W.**, Elanco Animal Health, \$63,249, "Lotilaner and Spinosad to Control Flea Populations on Naturally Infested Dogs in Private Residences in West Central FL USA."

Hesse, Richard, **Fang, Ying**, and **Marthaler, Douglas** (Veterinary Diagnostic Laboratory), National Pork Board, \$7,680, "The Effect of Natural Planned Exposure on Sow Immunity and Passive Immunity in their Piglets via Genotype Specific Rotavirus A and C ELISA."

Huang, Yan-Jang S., and **Vanlandingham, Dana L.**, Regents of the University of Minnesota, \$1,520, "The Antigenicity of Recombinant West Nile Virus Antigens in Rabbits."

Kim, Yunjeong, and **Chang, Kyeong-Ok**, Median Diagnostics, Inc., \$10,500, "Protease-Activated Receptor-2 Inhibitors for Treating Dermatitis in Dogs."

Kim, Yunjeong, and **Chang, Kyeong-Ok**, US Department of Health and Human Services, \$387,958, "Small Molecule Protease Inhibitors against MERS-CoV."

Li, Yanhua, **Anderson, Gary A.** (Veterinary Diagnostic Laboratory), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **Fang, Ying**, **Liu, Xuming** (Veterinary Diagnostic Laboratory), and **Peddireddi, Lalitha** (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$3,360, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Li, Yanhua, **Anderson, Gary A.** (Veterinary Diagnostic Laboratory), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **Fang, Ying**, **Liu, Xuming** (Veterinary Diagnostic Laboratory), **Ma, Wenjun**, and **Peddireddi, Lalitha** (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$5,305, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

Lockhart, Caryl Y., US Department of Agriculture, \$88,550, "Animal Disease Simulation Model and Australian Animal Disease Spread Model."

Lockhart, Caryl Y., **Burton, Kenneth R.** (National Agricultural Biosecurity Center), **Richt, Juergen**, **Scoglio, Caterina M.** (Electrical and Computer Engineering), and **Sebhatu, Tesfaalem T.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$4,271, "In-depth Investigation of the Epidemiology of Rift Valley Fever Outbreak in Kabale District, Uganda."

Ma, Wenjun, **Anderson, Gary A.** (Veterinary Diagnostic Laboratory), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **Fang, Ying**, **Li, Yanhua**, **Liu, Xuming** (Veterinary Diagnostic Laboratory), and **Peddireddi, Lalitha** (Veterinary Diagnostic Laboratory), Swine Health Information Center, \$10,610, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

Ma, Wenjun, US Department of Health and Human Services, \$423,172, "Biology and Infection of Bats with Novel Bat Influenza Viruses."

Ma, Wenjun, US Department of Health and Human Services, \$180,759, "Evolution and Biology of Influenza B Viruses in Pigs."

Ma, Wenjun, and **Richt, Juergen**, US Department of Health and Human Services, \$40,134, "Host Dependence of Influenza A Virus Reassortment."

Ma, Wenjun, and **Richt, Juergen**, US Department of Health and Human Services, \$76,980, "Syndromic Surveillance of Swine Influenza Viruses in the United States."

McGill, Jodi L., and **Bradford, Barry J.** (Animal Sciences and Industry), Cargill Animal Nutrition, \$57,000, "In vitro Screening System for Immune-Modulating Feed Components."

McGill, Jodi L., Kansas Board of Regents, \$25,000, "A Novel In Vivo Assay for Predicting Correlates of Protection From Tuberculosis."

McGill, Jodi L., **Comer, Jeffrey R.** (Anatomy and Physiology), **Tamura, Masaaki** (Anatomy and Physiology), and **Yang, Zhilong** (Biology), Kansas State University Foundation, \$5,250, "2017 Innovation Research Award."

McGill, Jodi L., **Bradford, Barry J.** (Animal Sciences and Industry), **Delamanha Mendonca, Luis G.** (Animal Sciences and Industry), and **Hulbert, Lindsey E.** (Animal Sciences and Industry), Phibro Animal Health Corporation, \$44,745, "Evaluating Impacts of Omnigen on Immune/Reproductive Interactions during the Transition to Lactation."

McGill, Jodi L., US Department of Health and Human Services, \$171,760, "Alternative Functions for Gamma Delta T Cells in the Immune Response to Mycobacterium."

McGill, Jodi L., **Comer, Jeffrey R.** (Anatomy and Physiology), and **Tamura, Masaaki** (Anatomy and Physiology), US Department of Health and Human Services, "Cancer-targeted Local Pulmonary Immunotherapy with PD-L1 Inhibitory Peptide Secretory Genes for the Treatment of Lung Cancer."

McGill, Jodi L., US Department of Health and Human Services, \$228,000, "Determining the Role of Interleukin-17 in the Immune Response to Respiratory Syncytial Virus Infection."

Morozov, Igor, **Richt, Juergen**, and **Trujillo, Jessie D.**, US Department of Homeland Security, \$84,722, "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."

Mwangi, Waithaka, and **Rowland, Raymond R. R.**, US Department of Agriculture, \$285,922, "Efficacy of Prototype Live-vectored Polyvalent African Swine Fever Virus Vaccines."

Mwangi, Waithaka, US Department of Agriculture, \$495,000, "Improved Vaccine Platforms for Safe and Effective Control of Bovine Niral Diarrhea Virus."

Mwangi, Waithaka, US Department of Health and Human Services, \$59,413, "Defining clinically relevant viral epitopes with cow antibodies."

Nagaraja, Tiruvoor G., and **Amachawadi, Raghavendra G.** (Clinical Sciences), Lallemand Specialties Inc., \$11,203, "Evaluation of Antimicrobial Activity of Lallemand's Microbial Cultures."

Nagaraja, Tiruvoor G., Cernicchiaro, Natalia, and Renter, David G., Legacy Animal Nutrition, \$8,294, "Randomized Complete Block Design to Evaluate the Efficacy of BactaShield at Reducing Shedding of Escherichia coli O157:H7 in Feces of Commercial Finishing Cattle."

Nagaraja, Tiruvoor G., Amachawadi, Raghavendra G. (Clinical Sciences), **Bai, Jianfa** (Veterinary Diagnostic Laboratory), **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), National Pork Board, \$23,473, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

Nagaraja, Tiruvoor G., Jones, Cassandra K. (Animal Sciences and Industry), **Phebus, Randall K.** (Animal Sciences and Industry), **Trinetta, Valentina** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$11,576, "Understanding Ecology and Distribution of Escherichia Coli O157:H7 and Non-O157:H7 STEC in US Swine Feed Mills."

Nagaraja, Tiruvoor G., Amachawadi, Raghavendra G. (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), and **Lubbers, Brian** (Veterinary Diagnostic Laboratory), Sensient Technologies Corporation, \$1,235, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Nagaraja, Tiruvoor G., Renter, David G., Sanderson, Michael W., and White, Bradley J. (Clinical Sciences), US Department of Health and Human Services, \$27,220, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Nguyen, Thu A., Boehringer Ingelheim, \$15,000, "2018 Boehringer Ingelheim Veterinary Scholars Program."

Nguyen, Thu A., Johnson Center for Basic Cancer Research, \$109,247, "Development of 3D Heterogeneous Tumor Spheroids."

Nguyen, Thu A., Davis, Elizabeth G. (Clinical Sciences), and **Schultz, Bruce D.** (Anatomy and Physiology), US Department of Health and Human Services, \$292, "Short Term Training in Health Professional Schools."

Niederwerder, Megan, Dritz, Steven S., Hefley, Trevor (Statistics), **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, \$80,012, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

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), Ocean Harvest Technology Limited, \$15,720, "Evaluation of Oceanfeed Swine: Effects on Sow and Offspring Performance, Carcass Characteristics and Meat Quality."

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, \$124,165, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Reif, Kathryn E., and **Coetzee, Johann F.** (Anatomy and Physiology), Kansas City Area Life Sciences Institute, \$45,000, "Assay Development and Validation for Intraerythrocytic Pathogen Drug Screening."

Reif, Kathryn E., Amachawadi, Raghavendra G. (Clinical Sciences), **Coetzee, Johann F.** (Anatomy and Physiology), **Hanzlicek, Gregg A.** (Veterinary Diagnostic Laboratory), **Olson, K C** (Animal Sciences and Industry), **Reppert, Emily** (Clinical Sciences), **Shuman, Cindy** (Dean of Education), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$827,964, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Renter, David G., Cernicchiaro, Natalia, and **Nagaraja, Tiruvoor G.,** Legacy Animal Nutrition, \$99,533, "Randomized Complete Block Design to Evaluate the Efficacy of BactaShield at Reducing Shedding of Escherichia coli O157:H7 in Feces of Commercial Finishing Cattle."

Renter, David G., Nagaraja, Tiruvoor G., Sanderson, Michael W., and **White, Bradley J.** (Clinical Sciences), US Department of Health and Human Services, \$13,610, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Renter, David G., and **Cernicchiaro, Natalia,** Zoetis LLC, \$9,011, "Various Zoetis Projects for 2017-2018."

Richt, Juergen, Innovate UK, \$110,887, "Multivalent Attenuated Vaccine Against Viral and Bacterial Zoonoses in Ruminants."

Richt, Juergen, Burton, Kenneth R. (National Agricultural Biosecurity Center), **Lockhart, Caryl Y., Scoglio, Caterina M.** (Electrical and Computer Engineering), and **Sebhatu, Tesfaalem T.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$9,706, "In-depth Investigation of the Epidemiology of Rift Valley Fever Outbreak in Kabale District, Uganda."

Richt, Juergen, US Department of Agriculture, \$52,492, "Molecular Analytical Methods Development to Support Arbovirus Research."

Richt, Juergen, US Department of Agriculture, \$198,720, "Understanding Pathogenesis and Epidemiology for Controlling Foreign Animal Diseases."

Richt, Juergen, US Department of Defense, \$1,058,164, "Determining the Ability of rVSV-ZEBOV to Infect Domestic Livestock."

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, \$60,201, "Host Dependence of Influenza A Virus Reassortment."

Richt, Juergen, US Department of Health and Human Services, \$25,500, "Interaction between Rift Valley Fever Virus Glycoprotein and Heparan Sulfate."

Richt, Juergen, and Ma, Wenjun, US Department of Health and Human Services, \$76,980, "Syndromic Surveillance of Swine Influenza Viruses in the United States."

Richt, Juergen, Morozov, Igor, and Trujillo, Jessie D., US Department of Homeland Security, \$84,722, "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., Ansera Analytics, \$5,000, "ANSERA ANALYTICS -Stability of virus over time in Hydrogel matrices."

Rowland, Raymond R. R., National Pork Board, \$66,576, "Adaptation of PRRSV to Genetic Modifications in CD163."

Rowland, Raymond R. R., Dritz, Steven S., Hefley, Trevor (Statistics), **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, \$29,095, "Assessing the Risk of African Swine Fever Virus (ASFV) Transmission in Feed."

Rowland, Raymond R. R., PIC North America (PIC USA, Inc.), \$9,000, "Use of Genetically Modified Pigs to Evaluate PRRS Virus Susceptibility."

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, \$17,738, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Rowland, Raymond R. R., Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), **Niederwerder, Megan** (Veterinary Diagnostic Laboratory), **Paulk, Chad B.** (Grain Science and Industry), **Trinetta, Valentina** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$1,075, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Rowland, Raymond R. R., and Mwangi, Waithaka, US Department of Agriculture, \$134,551, "Efficacy of Prototype Live-vectored Polyvalent African Swine Fever Virus Vaccines."

Rowland, Raymond R. R., US Department of Agriculture, \$62,496, "Genetically Improving Resistance of Pigs to PRRS Virus Infection."

Rowland, Raymond R. R., US Department of Agriculture, \$14,289, "Immune Evasion of Prrs Virus and a Novel Strategy for Vaccine Design."

Rowland, Raymond R. R., US Department of Agriculture, \$10,000, "Workshop on Global Challenges in Swine Infectious Diseases."

Rowland, Raymond R. R., Fang, Ying, Henningson, Jamie N. (Veterinary Diagnostic Laboratory), and **Lillich, James D.** (Anatomy and Physiology), US Department of Health and Human Services, \$45,600, "Establish a Pregnant Sow Model for Assessment of Influenza Vaccine Safety and Efficacy During Pregnancy."

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., US Department of Agriculture, \$21,846, "Ensemble Prediction for Foot-and-Mouth Disease."

Sanderson, Michael W., Nagaraja, Tiruvoor G., Renter, David G., and White, Bradley J. (Clinical Sciences), US Department of Health and Human Services, \$122,488, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Tokach, Lisa M., Tokach, Michael D. (Animal Sciences and Industry), and **Vipham, Jessie** (Dean of Agriculture and Director of AES), US Agency for International Development, "Improved Pig Health and Nutrition: The Major Drivers of Profitability and Sustainability for Smallholder Farmers in Cambodia."

Trujillo, Jessie D., Morozov, Igor, and Richt, Juergen, US Department of Homeland Security, \$112,963, "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), **Sharda, Ajay** (Biological and Agricultural Engineering), and **SV, Krishna Jagadish** (Agronomy), CNH Industrial America LLC, \$1,475, "Testing and Evaluation Services Agreement."

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, \$2,287, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."

Van Der Merwe, Deon, and Zereyesus, Yacob (Agricultural Economics), US Agency for International Development, \$1,791, "Mycotoxin Prevalence and Mitigation Measures in Ethiopia."

Vanlandingham, Dana L., and Huang, Yan-Jang S., Regents of the University of Minnesota, \$1,520, "The Antigenicity of Recombinant West Nile Virus Antigens in Rabbits."

Volkova, Victoriya, and Gehring, Ronette (Anatomy and Physiology), US Department of Health and Human Services, \$364,265, "Investigating Pharmacodynamics of Antimicrobials against Bacteria Accumulating Resistance."

Volkova, Victoriya, and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, \$125,000, "Retail Meat Surveillance in the State of Kansas as a Part of the National Antimicrobial Resistance Monitoring System."

Zhang, Weiping, Bill and Melinda Gates Foundation, \$126,341, "STa Toxoid Vaccines Development (Phase III)."

Zhang, Weiping, Kansas City Area Life Sciences Institute, \$25,000, "A Subunit Vaccine Against Shigella, Salmonella and Enterotoxigenic Escherichia Coli."

Zhang, Weiping, PATH Vaccine Solutions, \$591, "A Broadly Protective Subunit Vaccine Against Enterotoxigenic Escherichia Coli Diarrhea."

Zhang, Weiping, US Department of Health and Human Services, \$406,970, "A Broadly Protective Subunit Vaccine against Enterotoxigenic Escherichia coli (ETEC) Associated Diarrhea."

VETERINARY DIAGNOSTIC LABORATORY

Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Liu, Xuming**, and **Peddireddi, Lalitha**, Swine Health Information Center, \$3,360, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Liu, Xuming, Ma, Wenjun** (Diagnostic Medicine/Pathobiology), and **Peddireddi, Lalitha**, Swine Health Information Center, \$5,305, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

Anderson, Gary A., and Henningson, Jamie N., US Department of Agriculture, "NAHLN Support."

Bai, Jianfa, Amachawadi, Raghavendra G. (Clinical Sciences), **DeRouchey, Joel M.** (Animal Sciences and Industry), **Dritz, Steven S.** (Diagnostic Medicine/Pathobiology), **Goodband, Robert D.** (Animal Sciences and Industry), **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), **Tokach, Michael D.** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), National Pork Board, \$14,084, "Shiga Toxin-producing Escherichia Coli in Swine Feces in Commercial Production Systems and Assessment of Public Health Implications."

Bai, Jianfa, Anderson, Gary A., Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Liu, Xuming**, and **Peddireddi, Lalitha**, Swine Health Information Center, \$33,600, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Bai, Jianfa, Anderson, Gary A., Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Liu, Xuming, Ma, Wenjun** (Diagnostic Medicine/Pathobiology), and **Peddireddi, Lalitha**, Swine Health Information Center, \$26,525, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

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, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Hanzlicek, Gregg A., Amachawadi, Raghavendra G. (Clinical Sciences), **Coetzee, Johann F.** (Anatomy and Physiology), **Olson, K C** (Animal Sciences and Industry), **Reif, Kathryn E.** (Diagnostic Medicine/Pathobiology), **Reppert, Emily** (Clinical Sciences), **Shuman, Cindy** (Dean of Education), and **White, Bradley J.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$23,999, "Mitigation of Antimicrobial Resistance through Alternative Treatment Regimens to Control Bovine Anaplasmosis."

Hanzlicek, Gregg A., and Henningson, Jamie N., US Department of Agriculture, \$68,500, "NAHLN Support."

Hanzlicek, Gregg A., US Department of Agriculture, \$143,406, "NAHMS 2017 Beef Cow-calf BVD Testing."

Henningson, Jamie N., Nebraska Department of Health, \$9,500, "Rabies Lab Testing Contract."

Henningson, Jamie N., and Anderson, Gary A., US Department of Agriculture, \$68,509, "NAHLN Support."

Henningson, Jamie N., and Hanzlicek, Gregg A., US Department of Agriculture, \$68,500, "NAHLN Support."

Henningson, Jamie N., Fang, Ying (Diagnostic Medicine/Pathobiology), **Lillich, James D.** (Anatomy and Physiology), and **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, \$45,600, "Establish a Pregnant Sow Model for Assessment of Influenza Vaccine Safety and Efficacy During Pregnancy."

Liu, Xuming, Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), and **Peddireddi, Lalitha**, Swine Health Information Center, \$13,440, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Liu, Xuming, Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Ma, Wenjun** (Diagnostic Medicine/Pathobiology), and **Peddireddi, Lalitha**, Swine Health Information Center, \$31,830, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

Lubbers, Brian, Amachawadi, Raghavendra G. (Clinical Sciences), **Apley, Michael D.** (Clinical Sciences), and **Nagaraja, Tiruvoor G.** (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, \$1,235, "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, US Department of Health and Human Services, \$26,499, "KSVDL Vet-LRN Veterinary Diagnostic Laboratory Program."

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."

Marthaler, Douglas, Fang, Ying (Diagnostic Medicine/Pathobiology), and **Hesse, Richard** (Diagnostic Medicine/Pathobiology), National Pork Board, \$38,400, "The Effect of Natural Planned Exposure on Sow Immunity and Passive Immunity in their Piglets via Genotype Specific Rotavirus A and C ELISA."

Marthaler, Douglas, and **Fang, Ying** (Diagnostic Medicine/Pathobiology), Swine Health Information Center, \$21,025, "Development and validation of a rapid ELISA to detect IgA, IgM and IgG in serum and oral fluids to porcine teschovirus."

Marthaler, Douglas, and **Fang, Ying** (Diagnostic Medicine/Pathobiology), Swine Health Information Center, \$33,017, "Development and validation of ELISA IgA, IgM and IgG in serum and oral fluids to porcine Sapelovirus."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$108,000, "In vivo Testing of In-house Reference Standard and Toxicity Lots of SAM-rabies CNE (Study No. 1 -010418)."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$13,581, "Serology on Serum Samples Collected on a Repeated Dose Toxicity Study in Rats (CRO Study Number 1017-4901)."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), \$7,648, "Serology on Serum Samples Collected on an Exploratory Toxicity Study in Rats -Alny Lipid Comparison (CRO Study Number 2327-14315)."

Moore, Susan M., US Department of Agriculture, \$10,425, "Contract for Rabies Testing 12639518P0041."

Niederwerder, Megan, Dritz, Steven S. (Diagnostic Medicine/Pathobiology), **Jones, Cassandra K.** (Animal Sciences and Industry), **Paulk, Chad B.** (Grain Science and Industry), **Rowland, Raymond R. R.** (Diagnostic Medicine/Pathobiology), **Trinetta, Valentina** (Animal Sciences and Industry), and **Woodworth, Jason C.** (Animal Sciences and Industry), Swine Health Information Center, \$3,225, "Validation of a Low-cost Tool for Senecavirus A Detection, and Surveillance of Viral Prevalence in United States Feed Mills."

Peddireddi, Lalitha, Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), and **Liu, Xuming**, Swine Health Information Center, \$3,360, "Development and Evaluation of Antibody Detection Assay for PCV3 Virus."

Peddireddi, Lalitha, Anderson, Gary A., Bai, Jianfa, Fang, Ying (Diagnostic Medicine/Pathobiology), **Li, Yanhua** (Diagnostic Medicine/Pathobiology), **Liu, Xuming**, and **Ma, Wenjun** (Diagnostic Medicine/Pathobiology), Swine Health Information Center, \$5,305, "Development of Antibody Detection Assay for Swine Influenza B, C, and D Viruses."

VETERINARY HEALTH CENTER

Coffee, Calli, Higginbotham, Mary Lynn (Clinical Sciences), **Sheppard, Sabina P.**, and **Wouda, Raelene** (Clinical Sciences), Morris Animal Foundation, \$5,573, "The Use of a Recombinant, Attenuated *Listeria Monocytogenes* Expressing a Chimeric Human HER2/neu Protein to Prevent Metastatic Osteosarcoma."

Sheppard, Sabina P., **Coffee, Calli, Higginbotham, Mary Lynn** (Clinical Sciences), and **Wouda, Raelene** (Clinical Sciences), Morris Animal Foundation, \$5,573, "The Use of a Recombinant, Attenuated *Listeria Monocytogenes* Expressing a Chimeric Human HER2/neu Protein to Prevent Metastatic Osteosarcoma."

FACILITIES MANAGEMENT

FACILITIES REFUSE AND RECYCLING

Spiegel, William D., Kansas Department of Health and Environment, \$3,750, "Kansas State University Solid Waste Program."

KANSAS COOPERATIVE EXTENSION SERVICE

AGRICULTURE AND NATURAL RESOURCES

Hadley, Gregg L., US Department of Agriculture, \$351,133, "Kansas Agricultural Mediation Service."

Sigle, Nadine J., and **Hadley, Gregg L.** (Director of Cooperative Extension), Hansen Foundation, Dane G, \$24,640, "2018 Community Intern Initiative."

COUNTY AGENTS -METROPOLITAN SECTOR

Bates, Marlin A., **Aramouni, Fadi M.** (Animal Sciences and Industry), **Gragg, Sara E.** (Animal Sciences and Industry), **Nwadike, Londa S.** (Director of Cooperative Extension), **Phebus, Randall K.** (Animal Sciences and Industry), **Pliakoni, Eleni** (Horticulture and Natural Resources), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Food and Drug Administration, \$1,600, "Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework."

COUNTY AGENTS-NORTHEAST SECTOR

Tynon, Erin K., and **Wiles, Bradford B.** (School of Family Studies and Human Services), US Department of Agriculture, \$6,250, "Quality, Affordable Child Care as Economic Development in Rural Communities."

DIRECTOR OF COOPERATIVE EXTENSION

Hadley, Gregg L., and **Sigle, Nadine J.** (Agriculture and Natural Resources), Hansen Foundation, Dane G, \$24,640, "2018 Community Intern Initiative."

Hadley, Gregg L., **Mack, Diane D.** (Four-H Youth Development), and **Weber, Wade** (Four-H Youth Development), Monsanto Company, "2018 Agriculture Innovators Experience Implementation States Application."

Hadley, Gregg L., and **Mack, Diane D.** (Four-H Youth Development), US Department of Justice, "4-H National Mentoring Program (4-H NMP 8) Youth Futures Pilot."

Nwadike, Londa S., Coffey, Brian (Agricultural Economics), **Pliakoni, Eleni** (Horticulture and Natural Resources), **Trinetta, Valentina** (Animal Sciences and Industry), and **Yucel, Umut** (Animal Sciences and Industry), US Department of Agriculture, \$7,009, "Effective Packing Practices to Control Postharvest Disease in Small Fruit Crops."

Nwadike, Londa S., Aramouni, Fadi M. (Animal Sciences and Industry), **Bates, Marlin A.** (County Agents -Metropolitan Sector), **Gragg, Sara E.** (Animal Sciences and Industry), **Phebus, Randall K.** (Animal Sciences and Industry), **Pliakoni, Eleni**(Horticulture and Natural Resources), and **Rivard, Cary L.** (Horticulture and Natural Resources), US Food and Drug Administration, \$2,400, "Strategy for Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement Framework."

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, \$499,533, "Kansas Food Assistance Nutrition Education Plan."

Zimmerman, Jill A., Kansas Agriculture and Rural Leadership, Inc., \$260,238, "Kansas Agriculture and Rural Leadership, Inc."

EXTENSION FAMILY AND CONSUMER SCIENCES

Procter, Sandra B., and Peters, Paula (Director of Cooperative Extension), US Department of Agriculture, \$1,998,130, "Kansas Food Assistance Nutrition Education Plan."

FOUR-H YOUTH DEVELOPMENT

Mack, Diane D., Hadley, Gregg L. (Director of Cooperative Extension), and **Weber, Wade,** Monsanto Company, "2018 Agriculture Innovators Experience Implementation States Application."

Mack, Diane D., and Hadley, Gregg L. (Director of Cooperative Extension), US Department of Justice, \$56,465, "4-H National Mentoring Program (4-H NMP 8) Youth Futures Pilot."

Potter, Shane A., US Department of Agriculture, \$28,480, "Children, Youth and Families At-Risk: Professional Development and Technical Assistance (CYFAR PDTA)."

Weber, Wade, Hadley, Gregg L. (Director of Cooperative Extension), and **Mack, Diane D.,** Monsanto Company, \$20,000, "2018 Agriculture Innovators Experience Implementation States Application."

KANSAS FOREST SERVICE

Atchison, Robert L., US Department of Agriculture, \$15,000, "High Resolution Land Cover and Wind Break Assessment Products of Kansas."

Biles, Larry E., City of Wichita, KS, \$35,000, "Urban Tree Canopy Study."

Biles, Larry E., National Wild Turkey Federation, \$23,790, "Agreement between Kansas State University/Kansas Forest Service and National Wild Turkey Federation."

Biles, Larry E., US Department of Agriculture, \$11,368, "Conservation Research Program 2018."

Biles, Larry E., US Department of Agriculture, \$1,137,644 (includes \$500,779 from Third Party Match), "Consolidated Payment Grant 2017."

Biles, Larry E., US Department of Agriculture, \$218,000 (includes \$18,000 from In-Kind Match), "NRCS Technical Service Provider."

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, \$9,327 (includes \$2,537 from In-Kind), "Kansas Water Resources Research Institute 2016."

NORTHEAST AREA OFFICE

Duncan, Stewart R., and **Ciampitti, Ignacio** (Agronomy), Kansas Soybean Commission, \$996, "2019 K-State Soybean Production Schools for Kansas."

Duncan, Stewart R., Adee, Eric A. (Agronomy), **Ciampitti, Ignacio** (Agronomy), **Griffin, Terry W.** (Agricultural Economics), **Lin, Xiaomao** (Agronomy), and **Shoup, Douglas E.** (Southeast Area Office), Kansas Soybean Commission, \$1,496, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Duncan, Stewart R., Haag, Lucas A. (Northwest Area Office), **Lollato, Romulo P.** (Agronomy), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Wheat Commission, \$5,945, "Kansas Yield-Enhancing Strategies (KYES): II . Variety by Management Interactions at Plot and Field Scales."

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 Research Extension Center), US Department of Agriculture, \$12,307, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

NORTHWEST AREA OFFICE

Falk Jones, Jeanne S., and **Kumar, Vipin** (Agricultural Research Center-Hays), Kansas Sunflower Commission, \$1,000, "Influence of Rainfall on the Timing and Efficacy of PRE/POST Soil Residual Herbicides for Control of Herbicide-resistant Kochia and Palmer Amaranth."

Falk Jones, Jeanne S., Kumar, Vipin (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., Rice, Charles W. (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Corn Commission, \$2,450, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Corn in Kansas."

Haag, Lucas A., Aguilar, Jonathan P. (Southwest Area Office), **Ciampitti, Ignacio** (Agronomy), and **Patrignani, Andres** (Agronomy), Kansas Corn Commission, \$3,939, "Improving the Assessment of Soil Moisture Conditions in Irrigated Corn Using COSMOS."

Haag, Lucas A., and Lollato, Romulo P. (Agronomy), Kansas Crop Improvement Association, \$3,000, "Probability of Wheat Grain Yield Response and Breaking Even to Multiple Seed Cleaning by Seed treatment Combinations at Different Seeding Rates in Kansas."

Haag, Lucas A., Duncan, Stewart R. (Northeast Area Office), **Lollato, Romulo P.** (Agronomy), and **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), Kansas Wheat Commission, \$5,945, "Kansas Yield-Enhancing Strategies (KYES): II . Variety by Management Interactions at Plot and Field Scales."

Haag, Lucas A., Support Funds, \$11,220, "XNW Support Funds Public Service Off Campus 26."

Haag, Lucas A., Valent BioSciences, Corporation, \$32,724, "Testing Agricultural Chemical."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.** (Southwest Area Office), US Department of Agriculture, \$6,684, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

O'Brien, Daniel M., and Lamm, Freddie R. (Northwest Research Extension Center), Kansas Corn Commission, \$750, "Efficient Irrigation Technologies for Corn -A Comparison."

O'Brien, Daniel M., Lamm, Freddie R. (Northwest Research Extension Center), and **Schlegel, Alan J.** (Southwest Research Extension Center), Kansas Corn Commission, "Working with Less Water for Corn Production."

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., 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., 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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte**

L. (Southwest Area Office), US Department of Agriculture, \$3,342, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

SOUTHEAST AREA OFFICE

Farney, Jaymelynn K., Merck Animal Health, \$8,001, "Comparison of Revalor-G and Synovex One Grass on Double Stocked Native Flint Hills Pasture."

Farney, Jaymelynn K., NuTech Biosciences, Inc., \$4,450, "Determine How Chelated Copper May Impact Endophyte In Fescue."

Farney, Jaymelynn K., Kulesza, Stacey E. (Civil Engineering), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), US Department of Agriculture, \$4,999, "Improving Soil Health and Profitability with Cover Crops and Precision Conservation."

Shoup, Douglas E., DeWolf, Erick D. (Plant Pathology), **Lin, Xiaomao** (Agronomy), **Lollato, Romulo P.** (Agronomy), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Crop Improvement Association, "Reducing the Impact of Fusarium Head Blight."

Shoup, Douglas E., Dille, Johanna A. (Agronomy), **Hay, Marshall M.** (Agronomy), **Peterson, Dallas E.** (Agronomy), and **Roozeboom, Kraig L.** (Agronomy), Kansas Soybean Commission, \$1,779, "Control of Pigweed with an Integrated Systems Approach in Soybean."

Shoup, Douglas E., Rice, Charles W. (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$7,386, "Evaluation of Soil Health Test to Determine Fertilizer Needs for Soybean in Kansas."

Shoup, Douglas E., Jugulam, Mithila (Agronomy), **Kumar, Vipin** (Agricultural Research Center-Hays), **Peterson, Dallas E.** (Agronomy), and **Stahlman, Phillip W.** (Agricultural Research Center-Hays), Kansas Soybean Commission, \$13,000, "Investigation of Herbicide Resistance in Waterhemp and Palmer amaranth in Kansas: Survey, Mechanism, and Management."

Shoup, Douglas E., Little, Christopher R. (Plant Pathology), **Roozeboom, Kraig L.** (Agronomy), and **Sassenrath, Gretchen F.** (Southeast Agricultural Research Center), Kansas Soybean Commission, \$1,442, "Soybean Production Systems to Control Charcoal Rot and Other Soil-borne Diseases."

Shoup, Douglas E., Adey, Eric A. (Agronomy), **Ciampitti, Ignacio** (Agronomy), **Duncan, Stewart R.** (Northeast Area Office), **Griffin, Terry W.** (Agricultural Economics), and **Lin, Xiaomao** (Agronomy), Kansas Soybean Commission, \$1,496, "The Quest of 100-Bushel Soybean: On-Farm Approach."

Shoup, Douglas E., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Presley, DeAnn R.** (Agronomy), **Rice, Charles W.** (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Tomlinson, Peter J.** (Agronomy), and **Waggoner, Justin** (Southwest Area Office), US Department of Agriculture, \$15,530, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

SOUTHWEST AREA OFFICE

Aguilar, Jonathan P., Ciampitti, Ignacio (Agronomy), **Haag, Lucas A.** (Northwest Area Office), and **Patrignani, Andres** (Agronomy), Kansas Corn Commission, \$3,939, "Improving the Assessment of Soil Moisture Conditions in Irrigated Corn Using COSMOS."

Aguilar, Jonathan P., Devlin, Daniel L. (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J., Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya** (Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.**, US Department of Agriculture, \$104,697 (includes \$3,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

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), **Steward, David R.** (Civil Engineering), and **Vandever, Monte L.**, US Department of Agriculture, \$66,841, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Bolton, Debra, Johannes, Elaine M. (School of Family Studies and Human Services), **Kiss, D. Elizabeth** (School of Family Studies and Human Services), and **Wiles, Bradford B.** (School of Family Studies and Human Services), US Department of Health and Human Services, \$97,886, "Connecting Kids to Coverage: Outreach and Enrollment Cooperative Agreement."

Foster, Anserd J., Aguilar, Jonathan P., Devlin, Daniel L. (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya** (Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Vandever, Monte L.**, US Department of Agriculture, \$104,697 (includes \$3,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

Onstad, Christen P., Support Funds, \$25,500, "XSW Support Funds Public Service 35."

Vandever, Monte L., US Department of Agriculture, \$9,088, "Risk Management Education for Livestock and Forage Producers, Women in Agriculture and New and Beginning Producers in the Topeka Region."

Vandever, Monte L., Aguilar, Jonathan P., Devlin, Daniel L. (Ks Ctr for Ag Rsrce & the Env / Ks Water Rsrce Rsrch Inst), **Foster, Anserd J., Golden, Bill B.** (Agricultural Economics), **Kisekka, Isaya** (Southwest Research Extension Center), **Lamm, Freddie R.** (Northwest Research Extension Center), **Rogers, Danny H.** (Biological and Agricultural Engineering), and **Schlegel, Alan J.** (Southwest Research Extension Center), US Department of Agriculture, \$104,697 (includes

\$3,750 from KDA Match), "Using Farmer-Based Water Technology Farms to Implement New Irrigation Technologies to Sustain the Rural Economy."

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), **Schlegel, Alan J.** (Southwest Research Extension Center), and **Steward, David R.** (Civil Engineering), US Department of Agriculture, \$3,342, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains -KSU."

Waggoner, Justin, Jaeger, John R. (Agricultural Research Center-Hays), and **Tarpoff, Anthony J.** (Animal Sciences and Industry), Alliance Liquid Feeds, \$13,500, "Effects of Cellarot-Ore C.P.R. Fed during the Receiving Period on Cattle Performance, Morbidity, IBR Vaccine Response and Carcass Characteristics."

Waggoner, Justin, Devlin, Daniel L. (Ks Ctr for Ag Rsrcs & the Env / Ks Water Rsrce Rsrch Inst), **Middendorf, Gerad D.** (Sociology, Anthropology, and Social Work), **Presley, DeAnn R.** (Agronomy), **Rice, Charles W.** (Agronomy), **Ruiz Diaz Suarez, Dorivar A.** (Agronomy), **Shoup, Douglas E.** (Southeast Area Office), and **Tomlinson, Peter J.** (Agronomy), US Department of Agriculture, \$15,530, "Resilience and Vulnerability of Beef Cattle Production in the Southern Great Plains under Changing Climate, Land Use, and Markets."

Zukoff, Sarah N., Dow AgroSciences, LLC, \$3,000, "DAS TEA #2017-0152."

Zukoff, Sarah N., and **Miller, Frannie L.** (Entomology), US Department of Agriculture, \$10,000, "Kansas Agricultural Production Pollinator Habitat Utilization Survey."

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, \$4,923, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

K-STATE POLYTECHNIC CAMPUS

K-STATE POLYTECHNIC CAMPUS

Barnhart, Richard K., Jaffee, Benjamin A. (Salina Flight Operations), and **Zoller, Kirsten** (Salina Professional Education and Outreach), American Airlines, \$1,250, "Hands-on Aviation Pilot Experience for Students."

Fitzsimmons, Verna M., Kansas Department of Transportation, \$338,990, "Airport Design and Planning Agreement."

Fitzsimmons, Verna M., Kansas Department of Transportation, \$90,000, "Airport Preservation Agreement."

SALINA FLIGHT OPERATIONS

Jaffee, Benjamin A., Barnhart, Richard K. (K-State Polytechnic Campus), and **Zoller, Kirsten** (Salina Professional Education and Outreach), American Airlines, \$12,500, "Hands-on Aviation Pilot Experience for Students."

SALINA INFORMATION SYSTEMS

Gaeddert, Terri J., US Department of Education, \$166,468, "Enriching and Integrating 21st Century Science and Technology Knowledge and Skills into Today's Classroom Through Effective Partnerships."

SALINA PROFESSIONAL EDUCATION AND OUTREACH

Zoller, Kirsten, Barnhart, Richard K. (K-State Polytechnic Campus), and **Jaffee, Benjamin A.** (Salina Flight Operations), American Airlines, \$11,250, "Hands-on Aviation Pilot Experience for Students."

SALINA RESEARCH AND ENGAGEMENT

Carraway, Kurt J., and **Hsu, William H.** (Computer Science), Black & Veatch Corporation, \$14,850, "Image Analysis and Data Science: Aerial Survey of Street Insulators."

Carraway, Kurt J., and **Meyer, Andrea C.**, PrecisionHawk USA, Inc., \$7,602, "Task Order 3."

Meyer, Andrea C., and **Carraway, Kurt J.**, PrecisionHawk USA, Inc., \$7,602, "Task Order 3."

OFFICE OF THE PRESIDENT

INTERCOLLEGIATE ATHLETICS LOCAL

Dunn, Erin C., Lutter, Sonya L. (School of Family Studies and Human Services), and **Rubin, Lisa** (Special Education, Counseling, and Student Affairs), National Collegiate Athletic Association, \$3,300, "NCAA Athletes and Cost of Attendance Money: Spending and Financial Literacy."

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, \$23,000, "Video Production Services."

OFFICE OF THE PROVOST

CENTER FOR ENGAGEMENT AND COMMUNITY DEVELOPMENT

Procter, David E., Kansas Health Foundation, \$886,600, "Healthy Food First Collaborative: A Technical Assistance Center and Learning Laboratory."

Schenck-Hamlin, Donna C., Kansas Health Foundation, \$24,961, "Community Solutions to Affordable Housing: Civic Engagement on a Fundamental Public Health Issue."

Schenck-Hamlin, Donna C., Kerr, Jessica P. (Educational and Personal Development), and **Smethers, Steven J.** (School of Journalism and Mass Communications), Kansas Health Foundation, \$8,483, "The Healthy Communities Lab: Building Organizational Capacity to Create a Culture of Health in Manhattan, KS through Digital Media Storytelling and Public Dialogue."

DEAN OF GRADUATE SCHOOL

Polson, Cheryl J., US Department of Defense, \$232,128, "Brigade Spouse Courses at Fort Leavenworth 2015-2020."

Polson, Cheryl J., US Department of Defense, \$62,625, "Continuing Education for Senior Leaders (CESL) Seminar -Ft. Leavenworth."

Shanklin, Carol W., National Science Foundation, \$368,000, "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, \$60,000, "Center for Food Safety in Child Nutrition Programs."

INTERNATIONAL PROGRAMS

Chapman, Grant M., US Agency for International Development, \$25,249, "Peace Corps Recruiter."

Wood, Mary, Institute of International Education, \$131,250, "Foreign Fulbright English for Graduate Studies Programs."

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."

Mason, April, and **Graff, David A.** (History), Kansas State University Foundation, "Pickett Chair."

Niehoff, Ruth A., Kansas State University Foundation, \$29,000, "Spainhour Faculty Chair for KAWSE."

SCHOOL OF LEADERSHIP STUDIES

Gott, Trisha C., and **Kliwer, Brandon W.**, US Department of State, \$90,000, "Mandela Washington Fellowship for Young African Leaders -2018."

Kliwer, Brandon W., and **Gott, Trisha C.**, US Department of State, \$60,000, "Mandela Washington Fellowship for Young African Leaders -2018."

Steffensmeier, Timothy R., and **Tolar, Mary H.**, Kansas Leadership Center, \$132,090, "Kansas Leadership Center Research Initiative."

Tolar, Mary H., and **Steffensmeier, Timothy R.**, Kansas Leadership Center, \$14,677, "Kansas Leadership Center Research Initiative."

VICE PROVOST FOR UNDERGRADUATE STUDIES

Cortez, Anita R., Buckwalter, John (Dean of Human Ecology), and **Olsen, Charlotte S.** (School of Family Studies and Human Services), US Department of Health and Human Services, \$26,668, "Kansas Bridges to the Future."

VICE PRESIDENT FOR ADMINISTRATION AND FINANCE

KSU POLICE DEPARTMENT

Millington, Bradli E., Kansas Department of Transportation, \$2,000, "Special Traffic Enforcement Program (STEP)."

VICE PRESIDENT FOR RESEARCH

NATIONAL AGRICULTURAL BIOSECURITY CENTER

Burton, Kenneth R., US Department of Agriculture, \$70,000, "FY17 Decontamination of Field Equipment."

Burton, Kenneth R., Lockhart, Caryl Y. (Diagnostic Medicine/Pathobiology), **Richt, Juergen** (Diagnostic Medicine/Pathobiology), **Scoglio, Caterina M.** (Electrical and Computer Engineering), and **Sebhatu, Tesfaalem T.** (Dean of Veterinary Medical Center), US Department of Agriculture, \$1,941, "In-depth Investigation of the Epidemiology of Rift Valley Fever Outbreak in Kabale District, Uganda."

Burton, Kenneth R., US Department of Homeland Security, \$324,528, "Development of a National Livestock Readiness Program (NLRP) for Local, State, and Regional Agriculture Response."

Vanier, Martha A., US Department of Homeland Security, \$163,116, "IPA for Dr. Marty Vanier to DHS Science and Technology Directorate."

RESEARCH AND SPONSORED PROGRAMS

Marino, Mary Lou, and **Montelone, Beth A.**, National Aeronautics and Space Administration, \$21,421, "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, \$21,421, "National Space Grant College and Fellowship Program (SPACE Grant) Training Grant 2015-2018."

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, \$960,000, "Global Foods System."

VICE PRESIDENT BIOTECH LABORATORY

Marlow, Denver D., US Department of Agriculture, \$17,661, "Acquisition of Goods and Services."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS

DIVERSITY & MULTICULTURAL

Chavez, Mirta, and Rodriguez, Adrian T., US Department of Health and Human Services, \$5,336, "Project IMPACT Leadership Program -2017 -2020."

Rodriguez, Adrian T., and Chavez, Mirta, US Department of Health and Human Services, \$2,287, "Project IMPACT Leadership Program -2017 -2020."

EDUCATIONAL AND PERSONAL DEVELOPMENT

Booker, Monshonda, National Science Foundation, \$3,500, "Teaching Through Technology (T3) Alliance."

Booker, Monshonda, US Department of Education, \$6,438, "Kansas State University Salina Upward Bound."

Greene, Kathleen V., US Department of Education, \$260,137, "Ronald E. McNair PostBaccalaureate Achievement Program 2017 -2022."

Greene, Kathleen V., US Department of Education, \$234,535, "Student Support Services K-State-Salina."

Greene, Kathleen V., US Department of Education, \$304,664, "Student Support Services KSU-Manhattan."

Kerr, Jessica P., Schenck-Hamlin, Donna C. (Center for Engagement and Community Development), and **Smethers, Steven J.** (School of Journalism and Mass Communications), Kansas Health Foundation, \$8,234, "The Healthy Communities Lab: Building Organizational Capacity to Create a Culture of Health in Manhattan, KS through Digital Media Storytelling and Public Dialogue."

KSU CHILD DEVELOPMENT CENTER, INC.

Mitchell, Rose M., City of Manhattan, KS, \$43,432, "Social Services Advisory Board 2018."

Mitchell, Rose M., US Department of Agriculture, \$250, "Family Fun, Food & Fitness Event."

Mitchell, Rose M., US Department of Agriculture, \$300, "Spring 2017 Kansas Local Food & Gardening Sub-Grant."

Mitchell, Rose M., US Department of Agriculture, \$300, "Team Up for CACFP Success Workshop Stipend."

Mitchell, Rose M., US Department of Education, \$269,078, "Child Care Access Means Parents at K-State 2017 -2021."

NEW STUDENT SERVICES

Lehning, Emily M., Kansas State University Foundation, \$20,525, "Phillips 66 Shield Scholars Fund."

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, \$253,225, "FY18 VOCA Applications for Kansas State University."

STUDENT FINANCIAL ASSISTANCE

Moeder, Lawrence E., Give Something Back Foundation, \$969,534 (includes \$469,120 from Scholarships), "Give Something Back Foundation Scholarship Program."

STUDENT HEALTH

DeDonder, Jean M., and **Parker, James S.**, City of Manhattan, KS, \$20,000, "Special Alcohol Funding 2018."

Parker, James S., and **DeDonder, Jean M.**, City of Manhattan, KS, \$5,000, "Special Alcohol Funding 2018."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS

Bosco, Pat J., and **Franklin, E. Bernard**, Greater Kansas City Community Foundation, \$45,000, "KSCAC -Greater Kansas City Community Foundation."

Bosco, Pat J., and **Franklin, E. Bernard**, Kauffman Foundation, \$15,000, "KSCAC Kauffman Foundation Funds."

Bosco, Pat J., Kauffman Scholars, Inc., \$9,890, "IEP Kauffman Scholars Program ISP."

Bosco, Pat J., and **Franklin, E. Bernard**, National College Advising Corps, \$14,134, "KSU College Advising Corps in Kansas City -2016 -2017."

DeGroat, Arthur S., Kansas State University Foundation, \$34,761, "David Woods Kemper Veterans Foundation."

DeGroat, Arthur S., Kansas State University Foundation, \$40,837, "Kansas Masons Partnership in Military and Veterans Affairs."

DeGroat, Arthur S., Kansas State University Foundation, \$46,963, "Military Affairs Director Funds."

Franklin, E. Bernard, and **Bosco, Pat J.**, Greater Kansas City Community Foundation, \$405,000, "KSCAC -Greater Kansas City Community Foundation."

Franklin, E. Bernard, and **Bosco, Pat J.**, Kauffman Foundation, \$135,000, "KSCAC -Kauffman Foundation Funds."

Franklin, E. Bernard, and **Bosco, Pat J.**, National College Advising Corps, \$127,208, "KSU College Advising Corps in Kansas City -2016 -2017."