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

July 1, 2018–June 30, 2019
October 8, 2019

Dear Colleague:

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

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

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

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

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

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

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

Thank you for your continued support and hard work.

Sincerely,

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

I. Sponsored $173,586,081

II. Appropriated

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Campus State Appropriation</td>
<td>$32,109,354</td>
</tr>
<tr>
<td>Experiment Station Programs and Extension Services</td>
<td></td>
</tr>
<tr>
<td>Federal Appropriation*</td>
<td>$10,366,947</td>
</tr>
<tr>
<td>State Appropriation</td>
<td>$47,043,196</td>
</tr>
<tr>
<td>Veterinary Medical Center State Appropriation</td>
<td>$217,675</td>
</tr>
<tr>
<td>College of Technology and Aviation State Appropriation</td>
<td>$690,463</td>
</tr>
<tr>
<td><strong>SUBTOTAL</strong></td>
<td><strong>$90,427,635</strong></td>
</tr>
</tbody>
</table>

III. Donated** $48,690,468

RESEARCH/SCHOLARLY ACTIVITY BASE GRAND TOTAL $312,704,184

*As of 8/9/19
**KSU Foundation funds transferred to KSU in support of research/scholarly activity (excludes transfers to Athletics).
Kansas State University
Total Number of Extramural Awards Received

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Number of Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>953</td>
</tr>
<tr>
<td>2011</td>
<td>957</td>
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<tr>
<td>2012</td>
<td>910</td>
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<tr>
<td>2013</td>
<td>880</td>
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<tr>
<td>2014</td>
<td>954</td>
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<tr>
<td>2015</td>
<td>962</td>
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<tr>
<td>2016</td>
<td>1336</td>
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<tr>
<td>2017</td>
<td>1486</td>
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<tr>
<td>2018</td>
<td>1567</td>
</tr>
<tr>
<td>2019</td>
<td>1553</td>
</tr>
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Kansas State University  
Sources of Awards  
Fiscal Year 2019

<table>
<thead>
<tr>
<th>Source</th>
<th>Number of Awards</th>
<th>Dollar Value</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Government:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area/Local Governments</td>
<td>11</td>
<td>953,544</td>
<td>0.55%</td>
</tr>
<tr>
<td>State Governments</td>
<td>87</td>
<td>16,709,688</td>
<td>9.63%</td>
</tr>
<tr>
<td><strong>Federal:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>234</td>
<td>31,586,797</td>
<td>18.20%</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>23</td>
<td>5,065,267</td>
<td>2.92%</td>
</tr>
<tr>
<td>Department of Education</td>
<td>14</td>
<td>2,728,123</td>
<td>1.57%</td>
</tr>
<tr>
<td>Department of Energy</td>
<td>73</td>
<td>9,394,503</td>
<td>5.41%</td>
</tr>
<tr>
<td>Department of Health and Human Services</td>
<td>137</td>
<td>18,099,052</td>
<td>10.43%</td>
</tr>
<tr>
<td>Department of Homeland Security</td>
<td>8</td>
<td>1,677,811</td>
<td>0.97%</td>
</tr>
<tr>
<td>Department of the Interior</td>
<td>14</td>
<td>1,489,986</td>
<td>0.86%</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>10</td>
<td>286,410</td>
<td>0.16%</td>
</tr>
<tr>
<td>Environmental Protection Agency</td>
<td>18</td>
<td>1,950,289</td>
<td>1.12%</td>
</tr>
<tr>
<td>National Aeronautics and Space Administration</td>
<td>9</td>
<td>204,726</td>
<td>0.12%</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>119</td>
<td>19,348,545</td>
<td>11.15%</td>
</tr>
<tr>
<td>US Agency for International Development</td>
<td>25</td>
<td>16,300,591</td>
<td>9.39%</td>
</tr>
<tr>
<td>Other Federal</td>
<td>53</td>
<td>4,378,153</td>
<td>2.52%</td>
</tr>
<tr>
<td><strong>Private:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundations</td>
<td>359</td>
<td>11,938,512</td>
<td>6.88%</td>
</tr>
<tr>
<td>Industry (Including Foreign)</td>
<td>359</td>
<td>31,474,085</td>
<td>18.13%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1553</td>
<td>173,586,081</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
FY2019 Percentage of Total Dollar Amount of Extramural Awards by Source

Federal 64.82%
Industry 18.13%
Foundations 6.88%
State Governments 9.63%
Area/Local Governments 0.55%
FY2019 Percentage of Total Number of Extramural Awards by Source

- Federal: 47%
- Industry: 23%
- Foundations: 23%
- State Governments: 6%
- Area/Local Governments: 1%
FY2019 Extramural Award Sources by Dollar Amount

- Federal, $112,510,253
- Industry, $31,474,085
- Foundations, $11,938,512
- State Governments, $16,709,688
- Area/Local Governments, $953,544
FY2019 Extramural Award
Federal Sources by Percentage

- Department of Agriculture, 18.20%
- Department of Defense, 2.92%
- Department of Education, 1.57%
- Department of Energy, 5.41%
- Department of Health and Human Services, 10.43%
- Department of Homeland Security, 0.97%
- Department of the Interior, 0.86%
- Department of Transportation, 0.16%
- Environmental Protection Agency, 1.12%
- National Aeronautics and Space Administration, 0.12%
- National Science Foundation, 11.15%
- Other Federal, 2.52%
- US Agency for International Development, 9.39%
- National Science Foundation, 11.15%
FY2019 Extramural Award
Federal Sources by Dollar Amount

Other Federal, $4,378,153

US Agency for International Development, $16,300,591

National Science Foundation, $19,348,545

Department of Agriculture, $31,586,797

Department of Health and Human Services, $18,099,052

Department of Energy, $9,394,503

Department of Homeland Security, $1,677,811

Department of the Interior, $1,489,986

Department of Education, $2,728,123

National Aeronautics and Space Administration, $204,726

Environmental Protection Agency, $1,950,289

US Agency for International Development, $16,300,591

Other Federal, $4,378,153

National Science Foundation, $19,348,545

Department of Agriculture, $31,586,797

Department of Health and Human Services, $18,099,052

Department of Energy, $9,394,503

Department of Homeland Security, $1,677,811

Department of the Interior, $1,489,986

Department of Education, $2,728,123

National Aeronautics and Space Administration, $204,726

Environmental Protection Agency, $1,950,289
### Distribution of New Awards Among Colleges and Offices of the University Fiscal Year 2019

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

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

NOTE: See 5 Year Summary of Extramural Support for Individual College Unit Details
## FY2019 Cumulative Proposal/Award Summary

**07/01/18 - 06/30/19**

<table>
<thead>
<tr>
<th>Department/College</th>
<th>Proposals</th>
<th>Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Submitted</strong></td>
<td><strong>Period</strong></td>
</tr>
<tr>
<td>COLLEGE OF AGRICULTURE</td>
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</tr>
<tr>
<td>Agricultural Economics</td>
<td>65</td>
<td>$6,366,972</td>
</tr>
<tr>
<td>Agricultural Experiment Station</td>
<td>1</td>
<td>$27,500</td>
</tr>
<tr>
<td>Agricultural Research Center-Hays</td>
<td>48</td>
<td>$1,381,543</td>
</tr>
<tr>
<td>Agriculture and Natural Resources</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Agronomy</td>
<td>224</td>
<td>$10,326,337</td>
</tr>
<tr>
<td>Animal Sciences and Industry</td>
<td>302</td>
<td>$6,447,762</td>
</tr>
<tr>
<td>Dean of Agriculture and Director of AES</td>
<td>9</td>
<td>$178,197</td>
</tr>
<tr>
<td>Entomology</td>
<td>73</td>
<td>$3,194,765</td>
</tr>
<tr>
<td>Food Science Institute</td>
<td>1</td>
<td>$56,350</td>
</tr>
<tr>
<td>Grain Science and Industry</td>
<td>137</td>
<td>$5,099,254</td>
</tr>
<tr>
<td>Horticulture and Natural Resources</td>
<td>80</td>
<td>$1,810,700</td>
</tr>
<tr>
<td>International Agricultural Programs</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Kansas Industrial Extension Services</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>KS Ctr for Agri &amp; the Env./KS Water Resource Res. Inst.</td>
<td>9</td>
<td>$184,509</td>
</tr>
<tr>
<td>Northwest Research Extension Center</td>
<td>10</td>
<td>$346,558</td>
</tr>
<tr>
<td>Office of Academic Programs</td>
<td>1</td>
<td>$15,000</td>
</tr>
<tr>
<td>Plant Biotechnology Center</td>
<td>3</td>
<td>$55,913</td>
</tr>
<tr>
<td>Plant Pathology</td>
<td>115</td>
<td>$4,834,857</td>
</tr>
<tr>
<td>Southeast Agricultural Research Center</td>
<td>7</td>
<td>$65,270</td>
</tr>
<tr>
<td>Southwest Research Extension Center</td>
<td>23</td>
<td>$327,205</td>
</tr>
<tr>
<td>Total Agriculture</td>
<td>1,167</td>
<td>$48,521,520</td>
</tr>
</tbody>
</table>

| COLLEGE OF ARCHITECTURE, PLANNING & DESIGN | | |
| Architecture | 1 | $25,000 | $25,000 | 1 | $52,000 |
| Dean of Architecture, Planning and Design | 0 | $0 | $0 | 0 | $0 |
| Interior Architecture and Product Design | 0 | $0 | $0 | 0 | $0 |
| Landscape Architecture/Regional & Community Planning | 14 | $505,226 | $687,119 | 9 | $52,275 |
| Total Architecture/Regional & Community Planning | 15 | $530,226 | $712,119 | 10 | $104,275 |

<p>| COLLEGE OF ARTS AND SCIENCES | | |
| American Ethnic Studies | 0 | $0 | $0 | 0 | $0 |
| Art | 1 | $4,217 | $4,217 | 1 | $1,050 |
| Biochemistry | 48 | $4,821,991 | $16,122,295 | 31 | $3,748,794 |
| Biology | 92 | $10,501,149 | $26,147,727 | 61 | $7,331,654 |
| Chapman Center | 2 | $50,000 | $243,669 | 3 | $343,669 |
| Chemistry | 70 | $5,622,429 | $20,956,123 | 31 | $4,302,495 |
| Communication Studies | 4 | $124,060 | $375,247 | 1 | $146,105 |
| Dean of Arts and Sciences | 3 | $5,514 | $153,025 | 2 | $147,511 |
| Economics | 1 | $26,082 | $62,127 | 0 | $0 |
| English | 9 | $202,230 | $489,025 | 1 | $1,050 |
| Geography | 12 | $714,022 | $1,850,874 | 2 | $217,599 |
| Geology | 21 | $1,791,421 | $22,516,260 | 6 | $18,777,907 |
| History | 2 | $8,624 | $32,692 | 2 | $26,904 |
| Mathematics | 50 | $2,813,119 | $9,142,175 | 7 | $451,996 |
| Modern Languages | 1 | $11,194 | $11,194 | 1 | $11,194 |
| Philosophy | 8 | $133,219 | $284,411 | 3 | $254,568 |</p>
<table>
<thead>
<tr>
<th>Department/College</th>
<th>Proposals Submitted</th>
<th>Proposals Period</th>
<th>Proposals Total</th>
<th>Awards Submitted</th>
<th>Awards Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physics</td>
<td>62</td>
<td>$8,641,668</td>
<td>$27,303,534</td>
<td>37</td>
<td>$8,118,410</td>
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<tr>
<td>Political Science</td>
<td>5</td>
<td>$195,686</td>
<td>$320,284</td>
<td>2</td>
<td>$26,582</td>
</tr>
<tr>
<td>Psychological Sciences</td>
<td>21</td>
<td>$1,817,838</td>
<td>$9,474,435</td>
<td>10</td>
<td>$2,767,351</td>
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<tr>
<td>School of Journalism and Mass Communications</td>
<td>13</td>
<td>$771,250</td>
<td>$3,485,725</td>
<td>4</td>
<td>$260,116</td>
</tr>
<tr>
<td>School of Music, Theatre, and Dance</td>
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<td>$437,433</td>
<td>$670,751</td>
<td>1</td>
<td>$15,950</td>
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<tr>
<td>Sociology, Anthropology and Social Work</td>
<td>19</td>
<td>$1,234,414</td>
<td>$2,810,389</td>
<td>3</td>
<td>$783,836</td>
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<tr>
<td>Statistics</td>
<td>19</td>
<td>$1,072,431</td>
<td>$2,852,394</td>
<td>3</td>
<td>$308,128</td>
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<tr>
<td>Gender, Women, and Sexuality Studies</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Arts and Sciences</strong></td>
<td>466</td>
<td>$40,999,991</td>
<td>$145,108,573</td>
<td>212</td>
<td>$48,042,869</td>
</tr>
<tr>
<td><strong>COLEGE OF BUSINESS ADMINISTRATION</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finance</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Accounting</td>
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<td>$0</td>
<td>$0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Dean of Business Administration</td>
<td>1</td>
<td>$29,532</td>
<td>$89,413</td>
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<td>Management</td>
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<td>$158,271</td>
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<td>$5,056</td>
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<tr>
<td>Marketing</td>
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<tr>
<td><strong>Total Business Administration</strong></td>
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<td>$247,684</td>
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<td>$94,469</td>
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<tr>
<td><strong>COLEGE OF EDUCATION</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum and Instruction</td>
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<td>$3,293,540</td>
<td>$14,975,342</td>
<td>8</td>
<td>$849,953</td>
</tr>
<tr>
<td>Dean of Education</td>
<td>37</td>
<td>$4,303,853</td>
<td>$10,893,197</td>
<td>18</td>
<td>$2,928,434</td>
</tr>
<tr>
<td>Educational Leadership</td>
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<td>$1,786,856</td>
<td>1</td>
<td>$80,000</td>
</tr>
<tr>
<td>Elementary Education</td>
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<td>$0</td>
<td>$0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>0</td>
<td>$0</td>
<td>$0</td>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>Special Education, Counseling and Student Affairs</td>
<td>4</td>
<td>$539,013</td>
<td>$2,078,857</td>
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<td>$0</td>
</tr>
<tr>
<td><strong>Total Education</strong></td>
<td>80</td>
<td>$8,612,099</td>
<td>$29,734,252</td>
<td>27</td>
<td>$3,858,387</td>
</tr>
<tr>
<td><strong>COLEGE OF ENGINEERING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architectural Engineering and Construction Science</td>
<td>1</td>
<td>$315,000</td>
<td>$315,000</td>
<td>1</td>
<td>$315,000</td>
</tr>
<tr>
<td>Biological and Agricultural Engineering</td>
<td>82</td>
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## FY2019 Cumulative Proposal/Award Summary
### 07/01/18 - 06/30/19

### COLLEGE OF HEALTH AND HUMAN SCIENCES

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<th>Awards Received</th>
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**Total Human Ecology**

|                  | 110                  | $8,101,045| $24,278,713| 60              | $12,557,244 |

### K-STATE OLATHE

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<th>Department/College</th>
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**Total K-State Olathe**

|                  | 3                   | $319,355  | $651,637  | 0               | $0          |

### K-STATE POLYTECHNIC CAMPUS

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**Total Technology and Aviation**

|                  | 32                  | $685,803  | $1,116,251| 22              | $1,210,500  |

### COLLEGE OF VETERINARY MEDICINE

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**Total Veterinary Medical Center**

|                  | 519                 | $33,917,921| $94,413,975| 226             | $14,522,368 |

### COOPERATIVE EXTENSION

<table>
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<th>Department/College</th>
<th>Proposals Submitted</th>
<th><em>Period</em>*</th>
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### FY2019 Cumulative Proposal/Award Summary
**07/01/18 - 06/30/19**

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<th>**Total</th>
<th>Received</th>
<th>***Total</th>
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**Subtotal Cooperative Ext - Agriculture**

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**Subtotal Cooperative Ext - Human Ecology**

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**Total Office of the President**
## FY2019 Cumulative Proposal/Award Summary
### 07/01/18 - 06/30/19

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<th>Department/College</th>
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<th>**Total</th>
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<th>***Total</th>
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## FY2019 Cumulative Proposal/Award Summary

**07/01/18 - 06/30/19**

### Proposals

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<th>***Total</th>
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### Awards

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### Note:

*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.
## AGRICULTURE

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<th>2018</th>
<th>2019</th>
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## ARCHITECTURE, PLANNING AND DESIGN

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## ARTS AND SCIENCES

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## BUSINESS ADMINISTRATION

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## ENGINEERING

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<td>2018</td>
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| HEALTH AND HUMAN SCIENCES                        |           |           |           |           |           |
| Dean of Health and Human Sciences                | $408,764  | $746,412  | $1,536,171| $1,380,308| $3,127,167|
| Apparel, Textiles & Interior Design              | $51,190   | $115,702  | $60,546   | $96,592   | $157,166  |
| Food, Nutrition, Dietetics and Health            | $1,287,316| $3,381,174| $2,452,835| $1,015,422| $928,313  |
| Hospitality Management                           | $648,372  | $865,776  | $226,367  | $282,909  | $300,365  |
| Kinesiology                                     | $1,423,210| $697,233  | $688,578  | $1,315,162| $881,125  |
| School of Family Studies & Human Services        | $8,292,408| $6,700,747| $5,556,125| $6,594,965| $7,163,108|
| Extension Apparel, Textiles & Interior Design    | $0        | $0        | $0        | $0        | $0        |
| Extension Family & Consumer Sciences             | $2,547,558| $0        | $2,006,754| $1,998,130| $2,006,308|
| Extension Human Nutrition                        | $0        | $0        | $0        | $0        | $0        |
| Extension Nutrition Program                      | $0        | $0        | $0        | $0        | $0        |
| Ext. Family Studies & Human Services             | $0        | $0        | $0        | $0        | $0        |
| **College Totals**                               | $14,658,818| $12,507,044| $12,527,245| $12,683,488| $14,563,552|

| K-STATE OLATHE                                    |           |           |           |           |           |
| Innovation Campus                                | $0        | $6,700    | $43,700   | $0        | $0        |
| **College Totals**                               | $0        | $6,700    | $43,700   | $0        | $0        |

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

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

<p>| PRESIDENT                                         |           |           |           |           |           |
| Beach Art Museum                                  | $13,000   | $0        | $0        | $0        | $60,000   |</p>
<table>
<thead>
<tr>
<th>Department</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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</thead>
<tbody>
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| **PROVOST**                                     |        |        |        |        |        |
| Office of the Provost                          | $162,534| $133,380| $222,014| $31,059| $183,585|
| Assessment & Program Review                    | $0     | $0     | $0     | $0     | $0     |
| Center for Engagement, Community Development   | $33,660| $416,123| $183,821| $920,044| $0     |
| Dean of Global Campus                          | $0     | $0     | $55,200| $0     | $40,000|
| Dean of the Graduate School                    | $0     | $584,955| $686,726| $722,753| $830,361|
| Enterprise Server Technologies                 | $3,200 | $0     | $0     | $0     | $0     |
| Information Security & Compliance              | $0     | $0     | $0     | $0     | $0     |
| Information Systems                            | $0     | $0     | $0     | $0     | $0     |
| Information Technology Assistance Center       | $0     | $0     | $0     | $0     | $0     |
| International Programs                         | $0     | $48,851| $0     | $156,499| $365,944|
| Kansas Center for Rural Initiatives            | $0     | $0     | $0     | $0     | $0     |
| Library                                        | $0     | $22,169| $13,279| $0     | $0     |
| Network and Telecommunications Services        | $0     | $0     | $0     | $0     | $0     |
| Office of Diversity and Dual Career Dev.       | $257,299| $108,085| $424,905| $0     | $0     |
| Office of Mediated Education                   | $0     | $0     | $0     | $0     | $0     |
| Planning and Analysis                          | $0     | $0     | $0     | $0     | $0     |
| Regents Educational Communications Ctr.        | $0     | $0     | $0     | $0     | $0     |
| School of Leadership Studies                   | $54,080| $146,248| $158,000| $296,767| $358,316|
| Vice Provost for Undergraduate Studies          | $0     | $0     | $87,620| $26,668| $26,668|
| **Totals**                                     | **$510,773** | **$1,459,811** | **$1,831,565** | **$2,153,791** | **$2,153,791** |

| **V. P. ADMINISTRATION AND FINANCE**            |        |        |        |        |        |
| Vice President for Administration and Finance  | $0     | $0     | $0     | $0     | $24,897|
| Budget Office                                  | $0     | $0     | $0     | $0     | $0     |
| Facilities Refuse and Recycling                | $0     | $0     | $0     | $3,750| $0     |
| KSU Police Department                          | $0     | $19,605| $9,878 | $2,000| $0     |
| Public Safety                                  | $0     | $0     | $0     | $0     | $0     |
| Physical Facilities                            | $0     | $0     | $0     | $0     | $0     |
| **Totals**                                     | **$0** | **$19,605** | **$9,878** | **$5,750** | **$24,897** |

<p>| <strong>V. P. INSTITUTIONAL ADVANCEMENT</strong>             |        |        |        |        |        |
| Department of Housing                          | $0     | $0     | $0     | $0     | $0     |
| Educational &amp; Personal Development             | $0     | $0     | $0     | $0     | $0     |
| KSU Child Development Center                   | $0     | $0     | $0     | $0     | $0     |
| Office of Diversity &amp; 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     |
| <strong>Totals</strong>                                     | <strong>$0</strong> | <strong>$0</strong> | <strong>$0</strong> | <strong>$0</strong> | <strong>$0</strong> |</p>
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V.P. FOR STUDENT LIFE AND DEAN OF STUDENTS

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<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tr>
<td>Vice President for Student Life</td>
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UNIVERSITY TOTALS

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<th>2017</th>
<th>2018</th>
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*Music is now Included with School of Music, Theatre, and Dance.
**Previously reported under Advanced Manufacturing Institute

During FY 2015 a new credit/reporting allocation capture strategy, referred to as "E%" on the Sponsored Project Transmittal Sheet, was developed. The deployment of this more uniform allocation method streamlines and makes it easier for campus units to consistently report collaborative activities, that may not be necessarily reflected in previous year's totals.
EXTRAMURAL AWARDS
Fiscal Year 2019 Cumulative (July 1, 2018 – June 30, 2019)

COLLEGE OF AGRICULTURE

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


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

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

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

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

Golden, Bill B., and Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), Kansas Water Office, "Monitoring the Impacts of Sheridan County 6 Local Enhanced Management Area."
Ibendahl, Gregory, and Griffin, Terry W., Cotton, Inc., $15,000, "Economics of Whole-farm Swarm-Bots for Cotton Production in the US."

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


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

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

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


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

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

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


Sampson, Gabriel S., DeRouchey, Joel M. (Animal Sciences and Industry), Rivard, Cary L. (Horticulture and Natural Resources), Stewart, Zachary P. (Dean of Agriculture and Director of AES), and Vipham, Jessie (Dean of Agriculture and Director of AES), US Agency for International Development, $30,943, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."
Schroeder, Ted C., Kansas Department of Agriculture, $10,000, "Value of Cattle Traceability."

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


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

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


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

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

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


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

AGRICULTURAL RESEARCH CENTER-HAYS
Gillen, Robert L., Support Funds, $50,000, "AHY Support Funds Research 37."

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

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

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


Kumar, Vipan, and Peterson, Dallas E. (Agronomy), Kansas Soybean Commission, $17,109, "Non-Xtend Soybean Response to SimulatedDicamba Drift."

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

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

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

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

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

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

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

Obour, Augustine K., Ciampitti, Ignacio (Agronomy), Esser, Andrew R. (Agronomy), Haag, Lucas A. (Northwest Area Office), Holman, Johnathon D. (Southwest Research Extension Center), Roozeboom, Kraig L. (Agronomy), and Stewart, Zachary P. (Dean of Agriculture and Director of AES), US Department of Agriculture, $8,584, "Sustainable Field Pea Cropping Systems for the Great Plains."
Obour, Augustine K., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag Rsrs & the Env / Ks Water Rsrce Rsrch Inst), Golden, Bill B. (Agricultural Economics), Holman, Johnathon D. (Southwest Research Extension Center), Jaeger, John R., Johnson, Sandra K. (Northwest Area Office), Kulesza, Stacey E. (Civil Engineering), Lamm, Freddie R. (Northwest Research Extension Center), Lin, Xiaomao (Agronomy), O'Brien, Daniel M. (Northwest Area Office), Rogers, Danny H. (Biological and Agricultural Engineering), Schlegel, Alan J. (Southwest Research Extension Center), and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $25,298, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

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

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

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

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

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


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

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

AGRONOMY

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

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

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

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

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

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

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

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

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

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

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


Ciampitti, Ignacio, Duncan, Stewart R. (Northeast Area Office), Ruiz Diaz Suarez, Dorivar A., and Sweeney, Daniel W. (Southeast Agricultural Research Center), Kansas Soybean Commission, $16,500, "Improving Soybean Yields by Enhancing Seed Filling."


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

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


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

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

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

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


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


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

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


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

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

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


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

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

Lin, Xiaomao, National Oceanic and Atmosphere Administration, $110,352, "Weather Data Library Data Sets."
Lin, Xiaomao, Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag Rsrsces & the Env / Ks Water Rsrce Rsrch Inst), Golden, Bill B. (Agricultural Economics), Holman, Johnathon D. (Southwest Research Extension Center), Jaeger, John R. (Agricultural Research Center-Hays), Johnson, Sandra K. (Northwest Area Office), Kulesza, Stacey E. (Civil Engineering), Lamm, Freddie R. (Northwest Research Extension Center), Obour, Augustine K. (Agricultural Research Center-Hays), O'Brien, Daniel M. (Northwest Area Office), Rogers, Danny H. (Biological and Agricultural Engineering), Schlegel, Alan J. (Southwest Research Extension Center), and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $18,974, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."


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


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

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


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

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

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


Morris, Geoffrey, Ciampitti, Ignacio, and Sexton-Bowser, Sarah A. (Dean of Agriculture and Director of AES), Foundation for Food and Agriculture Research, $727,635 (includes $227,846 from Multi-Source Match), "Bridging the Genome-to-Phenome Breeding Gap for Water-Efficient Crop Yields (G2P Bridge)."
Morris, Geoffrey, Aiken, Robert M. (Northwest Research Extension Center), Little, Christopher R. (Plant Pathology), Perumal, Ramasamy (Agricultural Research Center-Hays), and Tesso, Tesfaye, Kansas Grain Sorghum Commission, $3,150, "Development of Sorghum Parental (A/B and R) lines with Enhanced Drought and Cold Tolerance."

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

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


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

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

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

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

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

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


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


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

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

Ransom, Michel D., US Department of Agriculture, $180,000, "Development of Genomic Tools for Genetic Improvement of Wheat."
Redmond, Christopher A., Alvarez Santos, Eduardo, and Ciampitti, Ignacio, Kansas Corn Commission, $9,319, "Updating the Kansas Mesonet for Longevity and to Improve Decision Making Tools."

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

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

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

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


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

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

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


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

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

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


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

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

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


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

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

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

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

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

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

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


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

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


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

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

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

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

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

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


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

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

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

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

ANIMAL SCIENCES AND INDUSTRY

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


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

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

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

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


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

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

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

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

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

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

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

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

Bradford, Barry J., ACE Ethanol LLC, $104,000, "Productivity and Nitrogen Balance of Lactating Cows Fed a High-Protein Corn Feed Product."
Bradford, Barry J., Kansas Department of Agriculture, $15,000, "Supporting Efforts to Grow the Kansas Dairy Sector."

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

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


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

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

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

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C., Ajinomoto Heartland LLC, $8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HC1."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C., NutriQuest, $2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."
DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., Tokach, Michael D., and Woodworth, Jason C., OLMIX, $6,000, "Effects of Diet Formulation and Supplementation of an Algae-derived Feed Additive in Grow-Finish Diets on Growth Performance and Carcass Characteristics."

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

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

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

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

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

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


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

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

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

DeRouchey, Joel M., Rivard, Cary L. (Horticulture and Natural Resources), Sampson, Gabriel S. (Agricultural Economics), Stewart, Zachary P. (Dean of Agriculture and Director of AES), and Vipham, Jessie (Dean of Agriculture and Director of AES), US Agency for International Development, $15,471, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."
Douthit, Teresa L., Drouillard, James S., and Lattimer, James M., AB Vista, $1,982, "Effect of Application Method of Vista Pre-T to a Dairy TMR on Ruminal in vitro Fermentation Parameters."


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


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

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

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

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

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

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Tokach, Michael D., and Woodworth, Jason C., Ajinomoto Heartland LLC, $8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HC1."

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

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

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

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

Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Tokach, Michael D., and Woodworth, Jason C., DSM Nutritional Products AG, $6,000, "Determining the Effects of High Phytase Levels and Phytase Withdrawal on Growth Performance, Carcass Characteristics, and Economics of Growing-Finishing Pigs."
Goodband, Robert D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Tokach, Michael D., and Woodworth, Jason C., ICM, Inc., $5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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

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

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

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

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

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

Hulbert, Lindsey E., US Navy, $25,000, "Blast II Subcontract: Using Behaviors as Biomarkers to Detect Subconcussive Mild Brain Trauma in Pigs Caused by Three Different Exposure Times to Blast."
Jones, Cassandra K., Crane, Alison R., and Lattimer, James M., Kansas Corn Commission, $13,698, "Utilizing Undergraduate Research to Evaluate Corn Distillers Grains or Corn Gluten Feed as a Replacement for Soybean Meal in Boer Grower Rations."

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

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

Jones, Cassandra K., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), and Woodworth, Jason C., Purina Animal Nutrition, LLC, $10,137, "Assessing the Effects of MCFA on PEDV Quantity and Infectivity-Phase 3 Bioassay."

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

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

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

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

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

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

Lattimer, James M., Paulk, Chad B. (Grain Science and Industry), and Stark, Charles (Grain Science and Industry), Milne Fruit Products, $1,291, "Milne Fruit Blueberry Pellet."

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


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

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

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

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

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

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


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

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


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

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., Ajinomoto Heartland LLC, $8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HC1."

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., Biomin America Inc., $2,000, "Efficacy of Commercial FUM Detoxifying Products on Phase Three Nursery Pigs Fed High FUM Diet."
Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., Niederwerder, Megan (Diagnostic Medicine/Pathobiology), and Woodworth, Jason C., CEVA Biomune, $21,298, "Effect of GleptoForte Injection Timing on Suckling, Nursery and Finish Pig Performance, Hematological Criteria and Fecal Microbiome Characteristics."

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

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., ICM, Inc., $5,000, "Evaluating the Productive Energy Content of High-Protein Dried Distillers Grains in Swine Diets."
Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., National Pork Board, $87,665, "Developing an Automated, Real-time Counting Technology for Pigs."

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

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

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., National Pork Board, $5,726, "Understanding the Survivability and Infectivity of African Swine Fever Virus in Various Environments."

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

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

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

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

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

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

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

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

Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Woodworth, Jason C., Sustainable Nutrition S.I., $5,000, "Effect of Supplementation of Monomix and/or ZnO on Growth Performance of Nursery Pigs."
Tokach, Michael D., DeRouchey, Joel M., Dritz, Steven S., Goodband, Robert D., and Woodworth, Jason C., SVC Research, LLC, $16,000, "KSU Applied Swine Nutrition Fellowship."

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

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

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

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

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

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

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

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

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

Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Tokach, Michael D., Ajinomoto Heartland LLC, $8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HC1."

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Woodworth, Jason C., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), and Jones, Cassandra K., Purina Animal Nutrition, LLC, $10,444, "Assessing the Effects of MCFA on PEDV Quantity and Infectivity-Phase 3 Bioassay."
Woodworth, Jason C., DeRouchey, Joel M., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D., and Tokach, Michael D., Sustainable Nutrition S.I., $5,000, "Effect of Supplementation of Monomix and/or ZnO on Growth Performance of Nursery Pigs."

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

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

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


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

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

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

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


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

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

Hock, Gaea, Aguilar, Jonathan P. (Southwest Area Office), Derby, Melanie M. (Mechanical and Nuclear Engineering), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics),
Hutchinson, Stacy L. (Biological and Agricultural Engineering), Parameswaran, Prathap (Civil Engineering), and Sanderson, Matthew R. (Sociology, Anthropology, and Social Work), National Science Foundation, $179,902, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

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

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

DEAN OF AGRICULTURE AND DIRECTOR OF AES
Dalton, Timothy J., US Agency for International Development, $184,057, "Implement a Genomics-Assisted Breeding Program in a Small Breeding Program in a Developing Country."


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


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

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

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

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

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


Pagadala, Venkata, and Stewart, Zachary P., International Fertilizer Development Center, $21,998, "Sustainable Opportunities for Improving Livelihoods with Soil (SOILS) Consortium."
Pagadala, Venkata, Middendorf, B. Jan, and Shuman, Cindy (Dean of Education), National Science Foundation, $46,552, "International Network-to-Network (N2N) Stakeholder Collaboration Workshop: Solutions to Accelerate Research, Leverage Resources, and Maximize Synergies."

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

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


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

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


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


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

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

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


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

Sexton-Bowser, Sarah A., and Minton, J. Ernest (Agricultural Experiment Station), US Department of Agriculture, $27,500, "Acquisition of Goods and Services."
Sexton-Bowser, Sarah A., Haag, Lucas A. (Northwest Area Office), Ruiz Diaz Suarez, Dorivar A. (Agronomy), Schlegel, Alan J. (Southwest Research Extension Center), and Tomlinson, Peter J. (Agronomy), US Department of Agriculture, $4,000, "Impact of a Plains Production System on Sustainable Production of Grain Sorghum."

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

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


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


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

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

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


Vipham, Jessie, 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

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

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

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

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

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

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

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

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

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


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

McCornack, Brian P., and Alberto, Jamie (Curriculum and Instruction), Kansas Corn Commission, $35,853, "Crops, Insects, and Agroecosystems - A New Course Offering for Elementary Education Majors at Kansas State University."
McCornack, Brian P., Kansas Soybean Commission, $56,198, "Agricultural Research Experiences for Teachers (RET) - Using Soybean as a Model System."

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


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


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


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


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

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


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

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

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

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


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

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

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

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

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

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

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

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

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

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

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

Zhu, Kun Yan, and Phillips, Thomas W., US Department of Agriculture, $30,000, "Postharvest Pest Control using Oxygenated Phosphine Fumigation and Nitric Oxide Fumigation."
Zhu, Kun Yan, Park, Yoonseong, and Silver, Kristopher S., US Department of Agriculture, $15,000, "Using Insect Exosomes to Increase RNAi Efficiency in Pest Insects."

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

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


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


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


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

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


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

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

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


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

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


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

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

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

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


Paulk, Chad B., Beyer, R. Scott (Animal Sciences and Industry), and Stark, Charles, Illinois Soybean Association, $7,239, "Evaluation of Soybean Meal from Illinois Soybeans."
Paulk, Chad B., and Stark, Charles, Intrexon Corporation, $76,000, "Intrexon Nursery Pig Study."

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

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


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

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

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


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

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

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

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

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

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

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

Siliveru, Kaliramesh, Aldrich, Greg, and Dhakal, Janak, Jones-Hamilton Company, $6,165, "Assessing the Efficacy of Addition of Sodium Bisulfate (SBS) in Tempering Water to Control E. coli (STEC) in Wheat."
Siliveru, Kaliramesh, US Department of Agriculture, $37,300, "Movement of Fumigant in Grain Bulks."


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

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

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

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


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

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

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

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


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

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


Stark, Charles, DeRouchey, Joel M. (Animal Sciences and Industry), Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Goodband, Robert D. (Animal Sciences and Industry), Paulk, Chad B., Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Syngenta Seeds, Inc., $6,000, "Influence of Particle Size of High Amylase and Conventional Corn on Grinding Cost, Diet Flowability, and Productivity of Lactating Sows, Nursery, and Grow-finish Pigs."
Sun, X. Susan, and Wang, Donghai (Biological and Agricultural Engineering), US Department of Agriculture, $68,360, "Effect of Sorghum Grain Components Fermentation and Co-Product Quality."


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


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

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

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

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

HORTICULTURE AND NATURAL RESOURCES


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

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

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


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

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

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

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

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

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

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


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

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

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

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

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

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

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

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

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

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

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

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


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, Jessié (Dean of Agriculture and Director of AES), US Agency for International Development, $30,943, "Multidimensional Trade-off Analysis of Integrated Animal-Horticulture Farming Systems for Improved Smallholder Farmer Adoption Recommendations."

Rivard, Cary L., Gragg, Sara E. (Animal Sciences and Industry), and Nwadike, Londa S. (Director of Cooperative Extension), US Department of Agriculture, $1,800, "Continued Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement."
Rivard, Cary L., and Skinner, Ashlee G., US Department of Agriculture, $1,200, "Cover Cropping in High Tunnels and Belowground Arthropods."

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

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

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


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


INTERNATIONAL AGRICULTURAL PROGRAMS

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

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

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

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

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

Devlin, Daniel L., City of Hays, KS, $12,250, "Storm Water Educational Outreach Efforts."
Devlin, Daniel L., Aguilar, Jonathan P. (Southwest Area Office), Bremer, Dale J. (Horticulture and Natural Resources), Fry, Jack D. (Horticulture and Natural Resources), Golden, Bill B. (Agricultural Economics), Hoyle, Jared (Horticulture and Natural Resources), Lamm, Freddie R. (Northwest Research Extension Center), Lavis, Catherine C. (Horticulture and Natural Resources), Rogers, Danny H. (Biological and Agricultural Engineering), and Schlegel, Alan J. (Southwest Research Extension Center), Foundation for Food and Agriculture Research, $41,850, "Irrigation Innovation Consortium."

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

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

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

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

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

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

Lamm, Freddie R., Aguilar, Jonathan P. (Southwest Area Office), Bremer, Dale J. (Horticulture and Natural Resources), Devlin, Daniel L. (Ks Ctr for Ag Rsces & the Env / Ks Water Rsrce Rsrch Inst), Fry, Jack D. (Horticulture and Natural Resources), Golden, Bill B. (Agricultural Economics), Hoyle, Jared (Horticulture and Natural Resources), Lavis, Catherine C. (Horticulture and Natural Resources), Rogers, Danny H. (Biological and Agricultural Engineering), and Schlegel, Alan J. (Southwest Research Extension Center), Foundation for Food and Agriculture Research, $13,500, "Irrigation Innovation Consortium."
Lamm, Freddie R., and Harmaney, Keith R. (Agricultural Research Center-Hays), US Department of Agriculture, $300,000, "Improving the Efficiency of Alfalfa Irrigation in the Great Plains Region with Subsurface Drip Irrigation."

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

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

PLANT BIOTECHNOLOGY CENTER

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

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

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

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


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

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

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


Crain, Jared L., and Poland, Jesse A., US Department of Agriculture, $150,000, "BTT EAGER: Unified Big Data in Genomics and Phenomics for Plant Breeding."
DeWolf, Erick D., Boyer, Cheryl R. (Horticulture and Natural Resources), Cloyd, Raymond A. (Entomology), Duncan, Stewart R. (Northeast Area Office), Hoyle, Jared (Horticulture and Natural Resources), Johnson, Wendy A. (Entomology), Kennelly, Megan, McCormack, Brian P. (Entomology), Miller, Frannie L. (Entomology), Peterson, Dallas E. (Agronomy), Rivard, Cary L. (Horticulture and Natural Resources), Stiffler, Brooke (Entomology), Upham, Ward S. (Horticulture and Natural Resources), and Zukoff, Sarah N. (Southwest Area Office), US Department of Agriculture, $13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."


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

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


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

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


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

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

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

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

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

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

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

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

Kennelly, Megan, Boyer, Cheryl R. (Horticulture and Natural Resources), Cloyd, Raymond A. (Entomology), DeWolf, Erick D., Duncan, Stewart R. (Northeast Area Office), Hoyle, Jared (Horticulture and Natural Resources), Lollato, Romulo P. (Agronomy), and Rupp, Jessica, US Department of Agriculture, $13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."
Resources), Johnson, Wendy A. (Entomology), McCormack, Brian P. (Entomology), Miller, Frannie L. (Entomology), Peterson, Dallas E. (Agronomy), Rivard, Cary L. (Horticulture and Natural Resources), Stiffler, Brooke (Entomology), Upham, Ward S. (Horticulture and Natural Resources), and Zukoff, Sarah N. (Southwest Area Office), US Department of Agriculture, $22,138, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

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

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

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


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

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

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

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

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

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

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

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

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

Liu, Sanzhen, and Park, Sunghun (Horticulture and Natural Resources), National Science Foundation, $897,567, "ECA-PGR: Under the Hood: The Genetic Components of Maize Regeneration."
Liu, Sanzhen, US Department of Agriculture, $700,000, "Analyses of Bacterial Avirulence and Virulence Loci and Host Resistance of Maize Goss's Wilt."

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

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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


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

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

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

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

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

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


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


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


SOUTHWEST RESEARCH EXTENSION CENTER
Gillen, Robert L., Support Funds, $19,300, "ASW Support Funds Research 37."

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

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

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

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

Holman, Johnathon D., Ciampitti, Ignacio (Agronomy), Esser, Andrew R. (Agronomy), Haag, Lucas A. (Northwest Area Office), Obour, Augustine K. (Agricultural Research Center-Hays), Roozeboom, Kraig L. (Agronomy), and Stewart, Zachary P. (Dean of Agriculture and Director of AES), US Department of Agriculture, $1,717, "Sustainable Field Pea Cropping Systems for the Great Plains."
Schlegel, Alan J., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), Golden, Bill B. (Agricultural Economics), Jaeger, John R. (Agricultural Research Center-Hays), Johnson, Sandra K. (Northwest Area Office), Kulesza, Stacey E. (Civil Engineering), Lam, Freddy 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., and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $15,811, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

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

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

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

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

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

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), McCormack, Brian P. (Entomology), Miller, Frannie L. (Entomology), Peterson, Dallas E. (Agronomy), Rivard, Cary L. (Horticulture and Natural Resources), Stiffler, Brooke (Entomology), and Upham, Ward S. (Horticulture and Natural Resources), US Department of Agriculture, $5,534, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

COLLEGE OF ARCHITECTURE, PLANNING AND DESIGN

ARCHITECTURE

LANDSCAPE ARCHITECTURE/REGIONAL AND COMMUNITY PLANNING

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


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

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

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

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

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

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


COLLEGE OF ARTS AND SCIENCES

ART

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

BIOCHEMISTRY


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

Geisbrecht, Brian V., US Department of Health and Human Services, $238,750, "Discovery of Small Molecule Inhibitors of the Classical Complement Pathway Using Cheminformatics."
Geisbrecht, Brian V., and Li, Ping (Chemistry), US Department of Health and Human Services, $86,141, "Molecular Study of PHA Biosynthesis: Production of Biodegradable Polymers for Medical Applications."

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


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


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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**BIOLOGY**

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

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

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

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


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

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

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

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

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

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


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


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

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

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

Gido, Keith B., US Department of the Interior, $281,786, "Population Size, Mobility, and Early Life History of Razorback Suckers in the San Juan River - Lake Powell Complex."

Gido, Keith B., US Department of the Interior, $122,944, "Range-Wide Habitat Assessment of Loach Minnow (Tiaroga cobitis) and Spikedace (Meda fulgida)."

Govind, Revathi, US Department of Health and Human Services, $76,000, "Regulatory Mechanisms Controlling TcdE Production in Clostridium Difficile."

Haukos, David A., Kansas Department of Wildlife and Parks, $40,000, "Establishment and Operation of the Kansas Cooperative Fish and Wildlife Research Unit."

Haukos, David A., US Department of Defense, $155,441, "Response of Greater Prairie-Chickens to Natural and Anthropogenic Disturbance on Fort Riley."


Li, Li, and Zinovyeva, Anna Y., US Department of Health and Human Services, "Functional Dissection of HRPK-1 in miRNA Activity Regulation (Li Li)."

Michel, Kristin, US Department of Health and Human Services, $21,126, "Exploring the Role of Ovary MicroRNAs in Mosquito Reproduction."

Michel, Kristin, Kanost, Michael R. (Biochemistry), and Scoglio, Caterina M. (Electrical and Computer Engineering), US Department of Health and Human Services, $439,214, "The Protease Network that Regulates Innate Immunity in Mosquitoes."

Mueller, Thomas, Kansas State University, $53,200, "Amygdale Circuits of Associative Learning and Reward in Zebrafish: An MRI Approach."

Mukherjee, Thiya, and Schrick, Kathrin, US Department of Health and Human Services, "Homeodomain Proteins Linking Lipid Metabolism to Gene Expression in Plants (Thiya Mukherjee)."

Nippert, Jesse B., Blair, John M., and Dodds, Walter K., National Science Foundation, $676,200, "LTER: Long-Term Research on Grassland Dynamics - Assessing Sensitivity and Resilience to Global Change."


Olson, Bradley J., and Rakijas, Jessica, US Department of Health and Human Services, $37,500, "Mechanism of Genome Instability Driven by RB Loss."

Passarelli, A. Lorena, US Department of Health and Human Services, $1,875, "K-INBRE DRPP Mentor for Stephanie Shames."

Platt, Thomas G., National Science Foundation, $141,996, "Prevalence and Co-occurrence of Pathogenic and Cheater Agrobacteria on Healthy and Crown Gall Disease Infected Sunflowers."

Platt, Thomas G., National Science Foundation, $24,536, "Synergism Between Plant Symbionts on Productivity: Development of a Mechanistic and Predictive Model of Microbiome Benefits to their Plant Hosts."

Rakijas, Jessica, and Olson, Bradley J., US Department of Health and Human Services, "Mechanism of Genome Instability Driven by RB Loss."

Roelofs, Jeroen, US Department of Health and Human Services, $300,000, "Mechanism of Degradation of the Proteasome through Autophagy."

Schrick, Kathrin, and Mukherjee, Thiya, US Department of Health and Human Services, $37,500, "Homeodomain Proteins Linking Lipid Metabolism to Gene Expression in Plants (Thiya Mukherjee)."


Shames, Stephanie R., and Geisbrecht, Brian V. (Biochemistry), US Department of Health and Human Services, $78,335, "Chemical Inhibition of Legionella Pneumophila Metaeffector Function."

Spooner, Brian S., Kansas State University Foundation, $62,261, "Biology Research Career Development Core."
Spooner, Brian S., Kansas State University Foundation, $47,058, "Biology Summer Graduate Fellowships."

Spooner, Brian S., Kansas State University Foundation, $22,300, "Cancer Center Research Awards."

Spooner, Brian S., Support Funds, $6,000, "OBO Biology Student Research Awards."


Vediyappan, Govindsamy, US Department of Health and Human Services, $10,000, "Typhoon Trio+ Multimode Imaging Core."

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

Wallace, Nicholas, and Wendel, Sebastian O., US Department of Health and Human Services, $37,500, "HPV E6 and E7 Disrupt the Translesion Synthesis Pathway (Sebastian Wendel)."

Welti, Ruth, National Science Foundation, $57,420, "RUI: Apoplastic Lipids in Xylem of Vascular Plants: Compositions, Locations, Origins, and Possible Functions."

Welti, Ruth, US Department of Agriculture, $6,000, "Polar Lipid Profile Analysis."

Welti, Ruth, US Department of Health and Human Services, $11,808, "Core Facility Support for the Kansas Lipidomics Research Center (KLFC)."

Wendel, Sebastian O., and Wallace, Nicholas, US Department of Health and Human Services, "HPV E6 and E7 Disrupt the Translesion Synthesis Pathway (Sebastian Wendel)."

Yang, Zhilong, US Department of Health and Human Services, $100,500, "Genomic and Chemical Approaches for Developing Novel Anti-poxvirus Strategies."


Zeglin, Lydia H., and Kirk, Matthew (Geology), National Science Foundation, $43,193, "Collaborative Research: Biogeochemical Drivers of Interspecies Electron Transfer from Iron Reducers to Methanogens."


Zinovyeva, Anna Y., and Li, Li, US Department of Health and Human Services, $37,500, "Functional Dissection of HRPK-1 in miRNA Activity Regulation (Li Li)."


CHAPMAN CENTER
Lynn-Sherow, Bonnie, Kansas State University Foundation, $193,669, "Chapman Center for Personnel."
Lynn-Sherow, Bonnie, Kansas State University Foundation, $50,000, "OCC NEH Making the Leap."

Lynn-Sherow, Bonnie, National Endowment for the Humanities, $100,000 (includes $50,000 from External Funding), "Making the Leap: The Future of Rural Historical Societies and Museums."

CHEMISTRY
Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Aikens, Christine M., Aakeroy, Christer B., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Bossmann, Stefan, and Culbertson, Christopher T., National Science Foundation, $150,000, "EAGER: Design and Validation of a Point-of-Care Device to Detect Biomarkers of Pain."

Bossmann, Stefan, Aakeroy, Christer B., Aikens, Christine M., Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $86,056, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Bossmann, Stefan, , (Psychological Sciences), Andresen, Daniel A. (Computer Science), Bailey, Heather R. (Psychological Sciences), Cain, Mary E. (Psychological Sciences), Kirkpatrick, Kimberly (Psychological Sciences), Loschky, Lester C. (Psychological Sciences), Pickens II, Charles (Psychological Sciences), and Zakrzewski, Alexandria (Psychological Sciences), US Department of Health and Human Services, $42,057 (includes $365 from WSU, and $365 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Bossmann, Stefan, US Department of Health and Human Services, $146,412, "HTS for Copper-Activated Inhibitors Against MRSA."

Chikan, Viktor, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Chikan, Viktor, Liu, Bin (Chemical Engineering), and Pfromm, Peter H. (Chemical Engineering), US Department of Energy, $61,545, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."
Culbertson, Christopher T., and Bossmann, Stefan, National Science Foundation, $150,000, "EAGER: Design and Validation of a Point-of-Care Device to Detect Biomarkers of Pain."

Culbertson, Christopher T., Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $103,268, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

Gadzikwa, Tendai, National Science Foundation, $425,000, "Enzyme-inspired Catalysis in Multifunctional Metal-organic Framework Materials."

Gadzikwa, Tendai, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Higgins, Daniel A., Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Higgins, Daniel A., Kansas State University Foundation, $65,000, "Center for Basic Cancer Research: Fraternal Order of Eagles Fund."

Higgins, Daniel A., Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Ito, Takashi, Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Hua, Duy H., US Department of Health and Human Services, $300,116, "Catalytic Asymmetric Oxidation of Alkenes and Alkanes."

Ito, Takashi, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Li, Jun, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Li, Jun, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Ping, and Tanona, Scott (Philosophy), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."


Li, Ping, Aakeroy, Christer B., Aikens, Christine M., Bossmann, Stefan, Chikan, Viktor, Culbertson, Christopher T., Gadzikwa, Tendai, Higgins, Daniel A., Ito, Takashi, Li, Jun, and Tanona, Scott (Philosophy),
National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."

**Li, Ping**, National Science Foundation, $461,784, "Study of A- and B-class Dye-decolorizing Peroxidases (DyPs): From Molecular Mechanisms to Applications in Dye Removal and Lignin Degradation."

**Li, Ping**, and **Geisbrecht, Brian V.** (Biochemistry), US Department of Health and Human Services, $420,570, "Molecular Study of PHA Biosynthesis: Production of Biodegradable Polymers for Medical Applications."

**Rafferty, Ryan**, National Science Foundation, $625,000, "CAREER: Penetrating Barriers - A New Paradigm for Enhancing Molecular Transport into Complex Biological Membranes."


**COMMUNICATION STUDIES**

**Paul, Gregory**, **Chladny, Bruce A.** (County Agents - Metropolitan Sector), **Johannes, Elaine M.** (School of Family Studies and Human Services), and **Williams, L. Susan** (Sociology, Anthropology, and Social Work), US Department of Justice, $146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

**DEAN OF ARTS AND SCIENCES**

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

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

**ENGLISH**

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

**GEOGRAPHY**

**Caldas, Marcellus M.**, Stroud Water Research Center, $20,000, "Stroud Water Research Center Agreement."

**Langston, Abigail L.**, National Science Foundation, $197,599, "RII Track-4: Using Novel Applications of Luminescence Techniques to Evaluate Channel Mobility and Bedrock Valley Development."

**GEOLOGY**

**Datta, Saugata**, National Science Foundation, $293,482, "Collaborative Research: The Dynamic Iron Curtain Surrounding Fluctuating Rivers and its Impacts on Arsenic Fate and Transport."

**Farough, Aida**, National Science Foundation, $18,000, "Participation of Aida Farough on Expedition 376."

**Goldberg, Karin**, American Chemical Society, $70,000, "High-Resolution Sequence Stratigraphy in Mudrock-Dominated Successions: The Chattanooga/Woodford Shale (Late Devonian, Midcontinent Basin)."

**Kirk, Matthew**, and **Zeglin, Lydia H.** (Biology), National Science Foundation, $153,137, "Collaborative Research: Biogeochemical Drivers of Interspecies Electron Transfer from Iron Reducers to Methanogens."

Totten, Matthew W., and Raef, Abdelmoneam, Schlumberger Technology Corporation, $9,121,644, "Contract for PETREL, TECHLOG, PETROMOD, GEOX Software."

HISTORY
Graff, David A., and Taber, Charles, (Office of the Provost), Kansas State University Foundation, $24,068, "Pickett Chair."

Krysko, Michael, Kansas State University Foundation, $2,836, "Kenneth Davis Professorship."

Lynn-Sherow, Bonnie, National Endowment for the Humanities, "Making the Leap: The Future of Rural Historical Societies and Museums."

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

Auckly, David R., Mathematical Association of America, $6,000, "Heritage Math Camp and Indigenous Math Circles."

Auckly, David R., and Blank, Ivan, National Science Foundation, $9,998, "Midwest Geometry Conference 2019-2021."

Blank, Ivan, and Auckly, David R., National Science Foundation, $9,998, "Midwest Geometry Conference 2019-2021."

Jaberi-Douraki, Majid, and Lin, Zhoumeng (Anatomy and Physiology), US Department of Agriculture, $119,000, "Food Animal Residue Avoidance Databank (FARAD)."

Nguyen, Dinh Liem, National Science Foundation, $130,000, "Direct and Inverse Electromagnetic Scattering Problems for Complex Periodic Media."

Poggi-Corradini, Pietro, National Science Foundation, $37,000 (includes $7,000 from University of Washington), "Modern Aspects of Complex Analysis and Its Applications."

MODERN LANGUAGES
Hillard, Derek, and Nakamura, Kumiko, Japan Foundation, The, "Salary Assistance Grant for Japanese-Language Courses."

Nakamura, Kumiko, and Hillard, Derek, Japan Foundation, The, $11,194, "Salary Assistance Grant for Japanese-Language Courses."

PHILOSOPHY
Herington, Jonathan C., Laverty, James (Physics), and Tanona, Scott, National Science Foundation, $116,907, "Standard: Developing a Value Literate Culture in Science."

Tanona, Scott, Aakeroy, Christer B. (Chemistry), Aikens, Christine M. (Chemistry), Bossmann, Stefan (Chemistry), Chikan, Viktor (Chemistry), Culbertson, Christopher T. (Chemistry), Gadzikwa, Tendai (Chemistry), Higgins, Daniel A. (Chemistry), Ito, Takashi (Chemistry), Li, Jun (Chemistry), and Li, Ping (Chemistry), National Science Foundation, $17,211, "REU Site: Research Experiences for Undergraduates in Chemistry at Kansas State University."
Tanona, Scott, Herington, Jonathan C., and Laverty, James (Physics), National Science Foundation, $120,450, "Standard: Developing a Value Literate Culture in Science."

**PHYSICS**


Berg, Matthew J., National Science Foundation, $187,986, "CAREER: In Situ Study of Aerosol in the Coarse Mode with Digital Holography."

Berg, Matthew J., US Department of Defense, $123,484, "Field Enhanced Optical Transmission in Metal."


Chakrabarti, Amitabha, and Sorensen, Christopher M., National Science Foundation, $81,733, "Studies of Light Scattering by Particles of Arbitrary Shape."


Flanders, Bret N., and Greenman, Loren, National Science Foundation, $87,091, "REU Site: Physics at Kansas State University - Interactions of Matter, Light and Learning."


Flanders, Bret N., US Department of Energy, $45,918, "Mesocrystal Architectures."

Flanders, Bret N., US Department of Health and Human Services, $21,812, "Conducting Polymer Nanowires for Neural Modulation."

Greenman, Loren, and Flanders, Bret N., National Science Foundation, $58,061, "REU Site: Physics at Kansas State University - Interactions of Matter, Light and Learning."


Horton-Smith, Glenn A., University of Michigan, $19,847, "Electronic Readout System: Electronics Readout w/HSMI Input (multiple boards, 64 channels/board, 12 bit, 80MS/s)."


Ivanov, Andrew G., National Science Foundation, $134,348, "U.S. CMS Operations at the Large Hadron Collider."


Laverty, James, Herington, Jonathan C. (Philosophy), and Tanona, Scott (Philosophy), National Science Foundation, $116,907, "Standard: Developing a Value Literate Culture in Science."


Samushia, Lado, National Aeronautics and Space Administration, $25,080, "Constraining Dark Energy and Modified Gravity with Euclid."


Schmit, Jeremy D., US Department of Health and Human Services, $279,618, "Theoretical and Computational Modeling of Amyloid Aggregation."

Sorensen, Christopher M., and Bossmann, Stefan (Chemistry), Carbon-2D Graphene Inc., $511,774, "Advanced Graphene Research."
**Sorensen, Christopher M., and Chakrabarti, Amitabha**, National Science Foundation, $190,709, "Studies of Light Scattering by Particles of Arbitrary Shape."

**Sorensen, Christopher M., Rudenko, Artem, and Thumm, Uwe**, US Air Force, $33,536, "Recollision Physics at the Nanoscale."

**Thumm, Uwe**, National Science Foundation, $270,000, "Imaging Electronic Dynamics in Matter with Atomic Spatio-temporal Resolution."

**Thumm, Uwe, Rudenko, Artem, and Sorensen, Christopher M.**, US Air Force, $34,553, "Recollision Physics at the Nanoscale."

**POLITICAL SCIENCE**


**PSYCHOLOGICAL SCIENCES**

**Bailey, Heather R., Andresen, Daniel A. (Computer Science), Bossmann, Stefan (Chemistry), Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, $399,537 (includes $3,471 from WSU, and $3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

**Cain, Mary E., Andresen, Daniel A. (Computer Science), Bailey, Heather R., Bossmann, Stefan (Chemistry), Kirkpatrick, Kimberly, Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, $399,537 (includes $3,471 from WSU, and $3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

**Cain, Mary E.,** US Department of Health and Human Services, $436,310, "The Effects of Differential Rearing on Glutamate Homeostasis and Addiction."

**Kirkpatrick, Kimberly, Andresen, Daniel A. (Computer Science), Bailey, Heather R., Bossmann, Stefan (Chemistry), Cain, Mary E., Loschky, Lester C., Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, $315,424 (includes $2,741 from WSU, and $2,741 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."


**Loschky, Lester C., Andresen, Daniel A. (Computer Science), Bailey, Heather R., Bossmann, Stefan (Chemistry), Cain, Mary E., Kirkpatrick, Kimberly, Pickens II, Charles, and Zakrzewski, Alexandria**, US Department of Health and Human Services, $126,170 (includes $1,096 from WSU, and $1,096 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

**Pickens II, Charles, Andresen, Daniel A. (Computer Science), Bailey, Heather R., Bossmann, Stefan (Chemistry), Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., and Zakrzewski, Alexandria**, US
Department of Health and Human Services, $399,537 (includes $3,471 from WSU, and $3,471 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Zakrzewski, Alexandria, , , Andresen, Daniel A. (Computer Science), Bailey, Heather R., Bossmann, Stefan (Chemistry), Cain, Mary E., Kirkpatrick, Kimberly, Loschky, Lester C., and Pickens II, Charles, US Department of Health and Human Services, $273,367 (includes $2,375 from WSU, and $2,375 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

SCHOOL OF JOURNALISM AND MASS COMMUNICATIONS
Glasscock, Kelly L., and Moro, Nikhil, Journalism Education Association, $182,953, "JEA Agreement for National Headquarters at Kansas State University."

Hallaq, Thomas G., Joglekar, Shreepad (Art), and Yu, Han (English), Support Funds, $1,400, "Food for Thought: A Multimedia Food Desert Project."

Moro, Nikhil, and Glasscock, Kelly L., Journalism Education Association, $20,328, "JEA Agreement for National Headquarters at Kansas State University."

Wolgast, Stephen L., Collegian Media Group, $55,435, "Student Publications Positions."

SCHOOL OF MUSIC, THEATRE, AND DANCE

SOCIOLOGY, ANTHROPOLOGY, AND SOCIAL WORK
Ritterbush, Lauren W., US Department of Defense, $247,943, "Intergovernmental Support Agreement for Archeological Surveys and Evaluations with Kansas State University."

Sanderson, Matthew R., Aguilar, Jonathan P. (Southwest Area Office), Derby, Melanie M. (Mechanical and Nuclear Engineering), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics), Hock, Gaea (Communications and Agricultural Education), Hutchinson, Stacy L. (Biological and Agricultural Engineering), and Parameswaran, Prathap (Civil Engineering), National Science Foundation, $389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Williams, L. Susan, Chladny, Bruce A. (County Agents - Metropolitan Sector), Johannes, Elaine M. (School of Family Studies and Human Services), and Paul, Gregory (Communication Studies), US Department of Justice, $146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

STATISTICS
Bello, Nora M., Albin, Nathan (Mathematics), Alvarez Santos, Eduardo (Agronomy), Duke, Linda A. (Beach Art Museum), Flippo, Daniel (Biological and Agricultural Engineering), Fritz, Allan K. (Agronomy), Hettiarachchi, Ganga M. (Agronomy), Kulesza, Stacey E. (Civil Engineering), Poland, Jesse A. (Plant Pathology), SV, Krishna Jagadish (Agronomy), and Welch, Stephen M. (Agronomy), National Science Foundation, $120,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

Hefley, Trevor, and Boyle, Alice (Biology), National Science Foundation, $135,515, "What are the Environmental Causes of Population Variability of Highly Mobile Animals?"

Hefley, Trevor, US Department of the Interior, $52,613, "Where Do We Look and What Should We Do: Examining the Hard Questions of Chronic Wasting Disease Management and Surveillance."

COLLEGE OF BUSINESS ADMINISTRATION
DEAN OF BUSINESS ADMINISTRATION
Jackson, Chad A., and Dorhout, Peter K. (Research Vice President), US Department of Commerce, $89,413, "Global Food Systems Economic Prosperity Accelerator."

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

COLLEGE OF EDUCATION
CURRICULUM AND INSTRUCTION
Alberto, Jamie, and McCormack, Brian P. (Entomology), Kansas Corn Commission, $1,887, "Crops, Insects, and Agroecosystems - A New Course Offering for Elementary Education Majors at Kansas State University."

Clark, Jeffrey D., and Vontz, Thomas, US Department of Defense, $189,599, "Troops to Teacher - Kansas Program (TTTK)."

Goodson, F. Todd, and Vontz, Thomas, Kansas Board of Regents, $75,000, "Transitions to Teaching."

Goodson, F. Todd, and Martinez, Tonnie T., US Department of Education, $159,034, "KSTEP-UP Kansas Statewide Teacher Education Pathway for Underserved and Place-bound Students."

Levin, Lori M., USD 383, Manhattan, $800, "KSU & USD 383 Nonfiction Book Trailer Project."

Martinez, Tonnie T., and Goodson, F. Todd, US Department of Education, $159,034, "KSTEP-UP Kansas Statewide Teacher Education Pathway for Underserved and Place-bound Students."

Vontz, Thomas, and Goodson, F. Todd, Kansas Board of Regents, $75,000, "Transitions to Teaching."

Vontz, Thomas, and Clark, Jeffrey D., US Department of Defense, $189,599, "Troops to Teacher - Kansas Program (TTTK)."

DEAN OF EDUCATION
Havlicek, Barbara J., Kansas Foundation for Agriculture in the Classroom, $120,781, "Kansas Foundation for Ag in the Classroom."

Havlicek, Barbara J., Schools for Quality Education, Inc., $7,000, "Schools for Quality Education (SQE)."

Herrera, Socorro G., Kingdom of Saudi Arabia, $1,400,000, "Sheltered Instruction Unifying Methodology, Multilingualism, and Innovation in Teaching (SUMMIT) Program."

Herrera, Socorro G., US Department of Education, $527,475, "INSIGHT."


Herrera, Socorro G., USD 259, Wichita, $100,000, "Wichita Schools ESL Professional Development."

Shuman, Cindy, National Association of Service and Conservation Corps, $63,840, "EPSCOR RII Track-1 Water Security in Delaware's Changing Coastal Environment (People & Water) - Evaluation."

Shuman, Cindy, National Science Foundation, $19,758, "Adapting Socio-ecological Systems to Increased Climate Variability."
Shuman, Cindy, Middendorf, B. Jan (Dean of Agriculture and Director of AES), and Pagadala, Venkata (Dean of Agriculture and Director of AES), National Science Foundation, $5,943, "International Network-to-Network (N2N) Stakeholder Collaboration Workshop: Solutions to Accelerate Research, Leverage Resources, and Maximize Synergies."

Shuman, Cindy, National Science Foundation, $15,200, "NSF ATE Critical Environments Engineering Technology Program (CEETP) - Evaluation."

Shuman, Cindy, National Science Foundation, $30,000, "NSF INCLUDES: American Indian Traditional Science Experience."


Shuman, Cindy, National Science Foundation, $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 Health and Human Services, $25,200, "Building Integrated Pathways to Independence for Diverse Biomedical Researchers (Project Pathways) - Evaluation."

Shuman, Cindy, US Department of Health and Human Services, $13,680, "Kansas IDeA Network of Biomedical Research Excellence (K-IMBRE)."


EDUCATIONAL LEADERSHIP
Doll, Richard, US Department of Education, $80,000, "Kansas Educational Leadership Institute (KELI)."

COLLEGE OF ENGINEERING

ARCHITECTURAL ENGINEERING AND CONSTRUCTION SCIENCE
Buyle, Raymond J., Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hussain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

BIOLOGICAL AND AGRICULTURAL ENGINEERING
Bigham, Kari A., Keane, Timothy D. (Landscape Architecture/Regional and Community Planning), and Moore, Trisha L., Kansas Water Office, $16,500, "Streambank Evaluation of the Cottonwood and Neosho Rivers above John Redmond Reservoir."

Bigham, Kari A., Featherstone, Allen M. (Agricultural Economics), and Reid, Roberta M. (Agricultural Economics), US Department of Agriculture, $5,610, "Loss and Costs of Streambanks with and without Riparian Forest Buffers."


Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), Sharda, Ajay, and Van Der Merwe, Deon (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, $360, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."


Flippo, Daniel, McCornack, Brian P. (Entomology), and Sharda, Ajay, US Department of Agriculture, $291,364, "NRI: INT: COLLAB: An Autonomous Insect Sense, Identify, and Manage Platform (SIMPL) to Advance Crop Protection Strategies."


Harner III, Joseph P., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

Hutchinson, Stacy L., and Derby, Melanie M. (Mechanical and Nuclear Engineering), National Science Foundation, $7,200, "EPRI: Flexible Flapping Surfaces for Water Collection and Condensation."

Hutchinson, Stacy L., Aguilar, Jonathan P. (Southwest Area Office), Derby, Melanie M. (Mechanical and Nuclear Engineering), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics), Hock, Gaea (Communications and Agricultural Education), Parameswaran, Prathap (Civil
Hutchinson, Stacy L., The Nature Conservancy, $30,000, "Modeling the Impact of Sustainable Development in the Blue River Watershed."

Hutchinson, Stacy L., US Department of Transportation, $52,500, "FHWA Resilience and Durability to Extreme Weather Pilot Program."


Liu, Zifei, US Department of Agriculture, $100,631, "Developing a Decision Tool to Assist Management of Prescribed Fires in the Flint Hills Region in Order to Reduce Smoke Impact on Ambient Ozone Concentrations."


Moore, Trisha L., National Science Foundation, $19,774, "Defining the Future of Ecological Engineering through Today's Students."

Moore, Trisha L., Biles, Larry E. (Kansas Forest Service), Devlin, Daniel L. (Ks Ctr for Ag 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, $5,916 (includes $5,916 from In-Kind), "Kansas Water Resources Research Institute 2016."

Moore, Trisha L., and Bigham, Kari A., US Fish and Wildlife Service, $3,000, "King's Creek Watershed Modeling."

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

Rogers, Danny H., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag 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), and Vandevene, Monte L. (Southwest Area Office), US Department of Agriculture, $6,325, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."


Sharda, Ajay, and Ciampitti, Ignacio, Deere & Company, $183,089, "Precision Planting System with Hydraulic Downforce Technology for Seed Placement Uniformity."

Sharda, Ajay, Flippo, Daniel, Schapaugh Jr, William T. (Agronomy), and Van Der Merwe, Deon (Diagnostic Medicine/Pathobiology), Kansas Soybean Commission, $15,840, "Small Unmanned Aircraft Thermal Infrared Imaging System to Identify Soybean Drought Tolerant Varieties."


Sheshukov, Aleksey Y., Biles, Larry E. (Kansas Forest Service), Devlin, Daniel L. (Ks Ctr for Ag Rsrs & the Env / Ks Water Rsrs Rsrch Inst), Keane, Timothy D. (Landscape Architecture/Regional and Community Planning), Moorberg, Colby (Agronomy), and Moore, Trisha L., US Department of the Interior, $5,916 (includes $5,916 from In-Kind), "Kansas Water Resources Research Institute 2016."

Slocombe, John W., and Brokesh, Edwin L., US Department of Agriculture, $162,000, "Kansas AgriAbility Project 2018-2022."


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


Zhang, Naiqian, and Moorberg, Colby (Agronomy), National Science Foundation, $38,498, "Collaborative Research: EAGER SitS: Automated Imaging Platform for In Situ Sensing and Analysis of Roots, Fungi, and Soil Solution Chemistry."

CENTER FOR HAZARDOUS SUBSTANCE RESEARCH
Hartnett, Michael J., Leven, Blase A., and Nightingale, Scott A., US Environmental Protection Agency, $270,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Leven, Blase A., Hartnett, Michael J., and Nightingale, Scott A., US Environmental Protection Agency, $180,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

Nightingale, Scott A., Hartnett, Michael J., and Leven, Blase A., US Environmental Protection Agency, $450,000, "Technical Assistance to Tribal Communities Addressing Brownfields."

CHEMICAL ENGINEERING
Amama, Placidus B., National Science Foundation, $109,663, "CAREER: Rational Design of Efficient Carbon Nanotube-Supported TiO2 Photocatalysts for Air Purification."

Amama, Placidus B., National Science Foundation, $16,000, "Nanomanufacturing of Vertically Aligned Carbon Nanotube Arrays from Industrial Waste Gas Mixture."
Edgar, James H., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hussain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

Hansen, Ryan R., Hettiarachchi, Ganga M. (Agronomy), Kulesza, Stacey E. (Civil Engineering), Parameswaran, Prathap (Civil Engineering), and Welch, Stephen M. (Agronomy), National Science Foundation, $54,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

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

Hansen, Ryan R., and Parameswaran, Prathap (Civil Engineering), National Science Foundation, $167,435, "Understanding Mechanisms of Membrane Biofouling in Anaerobic Membrane Bioreactors using Polymer Surface Dissection."

Hasegawa, Urara, US Department of Health and Human Services, $89,450, "Nanoparticle Platform for Site-Specific Gasotransmitter Hydrogen Sulfide Delivery."

Liu, Bin, Chikan, Viktor (Chemistry), and Pfromm, Peter H., US Department of Energy, $41,030, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."

Pfromm, Peter H., Chikan, Viktor (Chemistry), and Liu, Bin, US Department of Energy, $102,575, "Step Catalysis to Synthesize Fossil-Free Ammonia at Atmospheric Pressure."

CIVIL ENGINEERING

Dissanayake, Sunanda, and Fitzsimmons, Eric J., Kansas Department of Transportation, $13,596, "Evaluation of Wrong-Way Driving Countermeasures at Kansas Urban and Rural Interstates Ramps."

Dissanayake, Sunanda, and Fitzsimmons, Eric J., Kansas Department of Transportation, $13,891, "Guardrail Evaluation for Embankments and Culvert for Kansas Low-Volume Rural Roads."

Fitzsimmons, Eric J., and Dissanayake, Sunanda, Kansas Department of Transportation, $54,385, "Evaluation of Wrong-Way Driving Countermeasures at Kansas Urban and Rural Interstates Ramps."

Fitzsimmons, Eric J., and Dissanayake, Sunanda, Kansas Department of Transportation, $55,565, "Guardrail Evaluation for Embankments and Culvert for Kansas Low-Volume Rural Roads."

Fitzsimmons, Eric J., US Department of Justice, $496,184, "Reducing Traffic Related Officer Fatalities and Injuries Through Technology Enhancement and Policy."

Fitzsimmons, Eric J., US Department of Transportation, $5,000, "FHWA Dwight D. Eisenhower Transportation Fellowship Program (DDETFP)."

Fitzsimmons, Eric J., US Department of Transportation, $100,000, "Traffic Assistance for Kansas (TASK) Program (FY 2018 -2020)."
Hossain, Mustaque A., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

Hossain, Mustaque A., Kansas Department of Transportation, $22,000, "Administration of KDOT/KTRAN Program."

Hossain, Mustaque A., Kansas Department of Transportation, $4,337, "Evaluation of Carbon Char in Hot-Mix Asphalt Mixture."


Jones, Christopher A., Kansas Department of Transportation, $118,824, "Understanding Air Content Measurement Techniques for Durability Prediction."

Jones, Christopher A., US Department of Energy, $24,999, "Support for Ongoing V&V Assessment for CASL/VERA."

Jones, Christopher A., US Department of Energy, $60,000, "Support for Ongoing V&V Assessment for CASL/VERA."


Jones, Christopher A., US Department of Transportation, $5,000, "FHWA Dwight D. Eisenhower Transportation Fellowship Program (DDETFP)."


Kulesza, Stacey E., Kansas Department of Transportation, $71,914, "Measuring Corrosion Conditions in MSE Walls."

Kulesza, Stacey E., Hansen, Ryan R. (Chemical Engineering), Hettiarachchi, Ganga M. (Agronomy), Parameswaran, Prathap, and Welch, Stephen M. (Agronomy), National Science Foundation, $93,000, "EAGER SitS" Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Kulesza, Stacey E., Albin, Nathan (Mathematics), Alvarez Santos, Eduardo (Agronomy), Bello, Nora M. (Statistics), Duke, Linda A. (Beach Art Museum), Flippo, Daniel (Biological and Agricultural Engineering), Fritz, Allan K. (Agronomy), Hettiarachchi, Ganga M. (Agronomy), Poland, Jesse A. (Plant Pathology), SV, Krishna Jagadish (Agronomy), and Welch, Stephen M. (Agronomy), National Science Foundation, $40,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."

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

Kulesza, Stacey E., US Department of Transportation, $81,364, "Unsaturated Characteristics of Fouled Ballast to Support in Situ Identification of Fouling using Ground Penetrating Radar - Phase I."

Parameswaran, Prathap, Bio Huma Netics, Inc., $11,172, "Assessing the Denitrification Potential of PROBIOTIC SOLUTIONS for Sustainable Wastewater Treatment."

Parameswaran, Prathap, Hansen, Ryan R. (Chemical Engineering), Hettiarachchi, Ganga M. (Agronomy), Kulesza, Stacey E., and Welch, Stephen M. (Agronomy), National Science Foundation, $84,000, "EAGER SitS Sustainable Biosensor Integration for Precision Management of Agricultural Soils."

Parameswaran, Prathap, Aguilar, Jonathan P. (Southwest Area Office), Derby, Melanie M. (Mechanical and Nuclear Engineering), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics), Hock, Gaea (Communications and Agricultural Education), Hutchinson, Stacy L. (Biological and Agricultural Engineering), and Sanderson, Matthew R. (Sociology, Anthropology, and Social Work), National Science Foundation, $389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Parameswaran, Prathap, and Hansen, Ryan R. (Chemical Engineering), National Science Foundation, $136,992, "Understanding Mechanisms of Membrane Biofouling in Anaerobic Membrane Bioreactors using Polymer Surface Dissection."

Rasheed, Hayder A., Kansas Department of Transportation, $39,752, "New Carbon Fiber Anchor to Secure CFRP Flexural and Shear Strengthening Sheets."

Rasheed, Hayder A., Structural Technologies, $11,476, "New Carbon Fiber Anchor to Secure CFRP Flexural and Shear Strengthening Sheets."

COMPUTER SCIENCE
Amariucai, George, National Science Foundation, $10,810, "SBE: Small: Continuous Human-User Authentication by Induced Procedural Visual-Motor Biometrics."

Amariucai, George, National Security Agency, $12,000, "INSuRE 3.0: INSuRing the Effectiveness of Tomorrow's Cybersecurity Workforce Today."

Andresen, Daniel A., (Psychological Sciences), Bailey, Heather R. (Psychological Sciences), Bosmann, Stefan (Chemistry), Cain, Mary E. (Psychological Sciences), Kirkpatrick, Kimberly (Psychological Sciences), Loschky, Lester C. (Psychological Sciences), Pickens II, Charles (Psychological Sciences), and Zakrzewski, Alexandria (Psychological Sciences), US Department of Health and Human Services, $84,113 (includes $731 from WSU, and $731 from WSU Cost Share), "Cognitive and Neurobiological Approaches to Plasticity (C-NAP)."

Caragea, Cornelia A., National Science Foundation, $230,000, "CRI: CI-SUSTAIN: Collaborative Research: CiteSeerX: Toward Sustainable Support of Scholarly Big Data."

Caragea, Doina, Children's Mercy Hospital, $17,066, "Modeling Pediatric Cancer Trajectories Using Deidentified EHR Data."

DeLoach, Scott A., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer
Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."


Hatcliff, John M., and Robby, -, US Department of Defense, $5,000, "GUMBO: Grand Unified Modeling of Behavior Operators SBIR Phase I."


Neilsen, Mitchell L., and Poland, Jesse A. (Plant Pathology), National Science Foundation, $77,989, "BREAD PHENO: High-Throughput Phenotyping with Smart Phones. #phenoApp."


Prabhakar, Pavithra, National Science Foundation, $103,335, "CAREER: Robust Verification of Cyber-Physical Systems."


Reif, Kathryn E., and KuKanich, Katherine (Clinical Sciences), Foundation for Food and Agriculture Research, $2,400, "Veterinary Student Research Fellowship for Summer of 2019."


Robby, -, and Hatcliff, John M., US Department of Defense, $5,000, "GUMBO: Grand Unified Modeling of Behavior Operators SBIR Phase I."

DEAN OF ENGINEERING

Bitsie-Baldwin, LaVerne, and Clark, Gary A., National Action Council for Minorities in Engineering, $22,500, "NACME Scholars Program."

Clark, Gary A., Buyle, Raymond J. (Architectural Engineering and Construction Science), Dawson, Darren M., DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."
Clark, Gary A., and Bitsie-Baldwin, LaVerne, National Action Council for Minorities in Engineering, $22,500, "NACME Scholars Program."

Dawson, Darren M., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A., DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $350,000, "University Engineering Initiative Act (UEIA)."

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

ELECTRICAL AND COMPUTER ENGINEERING
Gruenbacher, Don M., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."


Kim, Jungkwun, Samil Technology Company Ltd., $8,873, "Planning International Joint R & D Tasks and Finding Overseas Partners for Developing Microscale Metal-polymer 3D Printer and Its Applications."

Kim, Sungo, Samsung Electronic Co. LTD, $100,000, "GRO Research Agreement: Fully Transparent Flexible and High Strength Mica Substrates."


Natarajan, Balasubramaniam, Black & Veatch Corporation, $30,000, "Modeling and Predictive Analysis of Springfield Sanitary Sewer System from a Machine/Statistical Learning Perspective."

Pahwa, Anil, National Science Foundation, $258,404, "National Science Foundation - Intergovernmental Personnel Act."


**Prakash, Punit**, Broncus Medical Inc, $68,778, "Experimental Platform for Characterizing Bioheat Transfer During Thermal Ablation of Lung Tumors."


**Prakash, Punit**, Beard, Warren L. (Clinical Sciences), and Ganta, Chanran K. (Veterinary Diagnostic Laboratory), National Science Foundation, $63,182, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

**Prakash, Punit**, Neurent Medical Ltd., $52,516, "Phase III - Computational Modeling and in vivo Assessment of RF Devices and Energy Delivery Strategies for Rhinitis."

**Prakash, Punit**, Beard, Warren L. (Clinical Sciences), Biller, David S. (Clinical Sciences), and Ganta, Chanran K. (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, $218,838, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

**Scoglio, Caterina M.**, US Department of Agriculture, $66,150, "Long-distance Dispersal and Disease Outbreaks: Effects of Initial Prevalence, Basic Reproduction Number, and Control Tactics."

**Scoglio, Caterina M., Kanost, Michael R.** (Biochemistry), and **Michel, Kristin** (Biology), US Department of Health and Human Services, $85,561, "The Protease Network that Regulates Innate Immunity in Mosquitoes."

**Shadmand, Mohammad B.,** Qatar Foundation, $83,515, "1-MW PV Power RD&D Using SiC-based qZS Cascade Multilevel Inverter and Battery Energy Storage."

**Shadmand, Mohammad B., White, Warren J.** (Mechanical and Nuclear Engineering), and **Wu, Hongyu**, US Department of Energy, $2,499, "Collegiate Wind Competition 2019."


**Wu, Hongyu, Shadmand, Mohammad B.,** and **White, Warren J.** (Mechanical and Nuclear Engineering), US Department of Energy, $2,499, "Collegiate Wind Competition 2019."

**ENGINEERING EXPERIMENT STATION**

Maghirang, Ronaldo G., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hessain, Mustaque A. (Civil Engineering), and Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

**INDUSTRIAL AND MANUFACTURING SYSTEMS ENGINEERING**

Heier Stamm, Jessica L., Centers for Disease Control and Prevention, $20,000, "Kansas Health Care Preparedness and Response Supply Chain Integrity Assessment."

**Heier Stamm, Jessica L.,** National Science Foundation, $9,143, "CAREER: Measuring the Impact of Public Health Supply Chain Coordination Structures on the Effectiveness of Disaster Preparedness and Response."
Kramer, Bradley A., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Dunn, William L. (Mechanical and Nuclear Engineering), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."


Kramer, Bradley A., Berggren, Quinton J. (Technology Development Institute), Bloomfield, John J. (Technology Development Institute), Lanz, Bret E. (Technology Development Institute), Merritt, Bryan E. (Technology Development Institute), Picolet, Jacob L. (Technology Development Institute), Tucker, Jeffrey W. (Technology Development Institute), and Zecha, Ryan A. (Technology Development Institute), US Department of Commerce, $10,125 (includes $2,000 from KDOC), "The K-State Technology Development Institute (TDI)."


Lei, Shuting, National Science Foundation, $8,000, "High Performance Machining of Brittle Materials by Controlled Crack Propagation."

Lin, Dong, National Aeronautics and Space Administration, $15,200, "Additive Manufacturing of Reinforced Carbon-Carbon Composites by Laser Assisted Laminated Object Manufacturing (LA-LOM)."

INSTITUTE FOR ENVIRONMENTAL RESEARCH

Eckels, Steven J., Support Funds, $5,382, "Thermal Properties of Textile Products."

Hosni, Mohammad H., and Jones, Byron W., US Department of Health and Human Services, $34,110, "Aircraft Cabin Pathogen Dispersion and Control Research Laboratory Services."

Jones, Byron W., and Hosni, Mohammad H., US Department of Health and Human Services, $34,110, "Aircraft Cabin Pathogen Dispersion and Control Research Laboratory Services."

KANSAS INDUSTRIAL EXTENSION SERVICES
Carter, David A., Cook, Yvonne C., and Hamel, Ryan J., National Renewable Energy Laboratory, $24,000, "Wind for Schools."


Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, $3,750, "Kansas State University-Missouri Radon Training."

Hanson, Brian R., Snead, Bruce C., and Snyder, Kristina E., US Environmental Protection Agency, $70,000, "National Radon Program Services (NRPS)."

Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, $115,000 (includes $45,000 from In-Kind Support), "Radon Projects for Kansas."


Larson, Nancy J., US Department of Health and Human Services, $9,000, "Douglas County Food Awareness Campaign."


Larson, Nancy J., and Ladd, Lynelle M., US Environmental Protection Agency, $97,787 (includes $9,800 from Industry Match), "Kansas Hospitals for a Healthy Environment."

Larson, Nancy J., US Environmental Protection Agency, $351,768 (includes $190,000 from Industry Match), "Kansas Partners Identify and Implement P2 Strategies that Address National Emphasis Areas, Specifically Toxics and Hazardous Materials."

Snead, Bruce C., Tennessee Department of Environment & Conservation, $56,000, "Tennessee Department of Environment & Conservation."

Snead, Bruce C., and Hanson, Brian R., US Environmental Protection Agency, $3,750, "Kansas State University-Missouri Radon Training."

Snead, Bruce C., Hanson, Brian R., and Snyder, Kristina E., US Environmental Protection Agency, $80,000, "National Radon Program Services (NRPS)."

Snead, Bruce C., and Hanson, Brian R., US Environmental Protection Agency, $115,000 (includes $45,000 from In-Kind Support), "Radon Projects for Kansas."

Snead, Bruce C., US Environmental Protection Agency, $5,800 (includes $2,900 from Participant Support Match), "Radon Projects for Nebraska 2019."
Snyder, Kristina E., Hanson, Brian R., and Snead, Bruce C., US Environmental Protection Agency, $50,000, "National Radon Program Services (NRPS)."

MECHANICAL AND NUCLEAR ENGINEERING


Betz, Amy R., and Derby, Melanie M., National Aeronautics and Space Administration, $10,266, "Humans in Space: A Workshop for Middle School STEM Teachers."

Derby, Melanie M., and Betz, Amy R., National Aeronautics and Space Administration, $10,266, "Humans in Space: A Workshop for Middle School STEM Teachers."

Derby, Melanie M., and Hutchinson, Stacy L. (Biological and Agricultural Engineering), National Science Foundation, $40,797, "EPRI: Flexible Flapping Surfaces for Water Collection and Condensation."

Derby, Melanie M., Aguilar, Jonathan P. (Southwest Area Office), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics), Hock, Gaea (Communications and Agricultural Education), Hutchinson, Stacy L. (Biological and Agricultural Engineering), Parameswaran, Prathap (Civil Engineering), and Sanderson, Matthew R. (Sociology, Anthropology, and Social Work), National Science Foundation, $1,019,444, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Dunn, William L., Buyle, Raymond J. (Architectural Engineering and Construction Science), Clark, Gary A. (Dean of Engineering), Dawson, Darren M. (Dean of Engineering), DeLoach, Scott A. (Computer Science), Edgar, James H. (Chemical Engineering), Gruenbacher, Don M. (Electrical and Computer Engineering), Harner III, Joseph P. (Biological and Agricultural Engineering), Hossain, Mustaque A. (Civil Engineering), Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), and Maghirang, Ronaldo G. (Engineering Experiment Station), Kansas Department of Commerce, $315,000, "University Engineering Initiative Act (UEIA)."

Hobbeck, Jared D., National Science Foundation, $203,109, "Collaborative Research: Rethinking the Role of Building Envelopes with Smart Morphing Facades (Smorphacades)."
Hosni, Mohammad H., US Department of Energy, $7,500, "Nuclear Energy University Programs Fellowship and Scholarship Support."

Leseman, Zayd C., US Department of Energy, $6,500, "Floating Die Fixture."


McGregor, Douglas S., and Bahadori, Amir, National Aeronautics and Space Administration, $3,705, "High-Resolution Scanning of Sub-Surface Lunar Water with Mobile Neutron Energy Spectrometer."


McNeil, Walter J., and Sobering, Timothy J. (Vice President Electronics Design Laboratory), US Department of Energy, $5,000, "Electronics Additive Manufacturing PDRD."


Singh, Gurpreet, National Science Foundation, $875,721, "PIRE: High Temperature Ceramic Fibers: Polymer-based Manufacturing, Nanostructure, and Performance."

Wang, Youqi, US Department of Defense, $100,000, "Real Scale Numerical Simulation of Ballistic Tests for Multi-layer Fabric Body Armor."

Wei, Mingjun, Powers & Zahr Consortium Management Co LLC, $2,000, "Support of B-52 Re-Engine Program."

Wei, Mingjun, US Department of Defense, $120,000, "(YIP) A Multiscale Morphing Continuum Analysis on Energy Cascade of Compressible Turbulence."

White, Warren J., Shadmand, Mohammad B. (Electrical and Computer Engineering), and Wu, Hongyu (Electrical and Computer Engineering), US Department of Energy, $4,998, "Collegiate Wind Competition 2019."

NATIONAL GAS MACHINERY LABORATORY


TECHNOLOGY DEVELOPMENT INSTITUTE

Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."


Bloomfield, John J., Berggren, Quinton J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."


Lanz, Bret E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Merritt, Bryan E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."


Merritt, Bryan E., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Lanz, Bret E., Picolet, Jacob L., Tucker, Jeffrey W., and Zecha, Ryan A., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

Morgan, Heather M., and Tucker, Jeffrey W., US Department of Agriculture, $120,000, "Technical Assistance to Rural Kansas Communities to Include Regional Thinking, Community Engagement, and Economic Efficiency in Community Facilities Projects."


Picolet, Jacob L., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Lanz, Bret E., Merritt, Bryan E., Tucker, Jeffrey W., and Zecha, Ryan A., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."


Tucker, Jeffrey W., Support Funds, $109,500, "Support Funds 52% Account."

Tucker, Jeffrey W., US Department of Agriculture, $99,500, "Off Campus Service Agreement."

Tucker, Jeffrey W., and Morgan, Heather M., US Department of Agriculture, $30,000, "Technical Assistance to Rural Kansas Communities to Include Regional Thinking, Community Engagement, and Economic Efficiency in Community Facilities Projects."


Zecha, Ryan A., Berggren, Quinton J., Bloomfield, John J., Kramer, Bradley A. (Industrial and Manufacturing Systems Engineering), Lanz, Bret E., Merritt, Bryan E., Picolet, Jacob L., and Tucker, Jeffrey W., US Department of Commerce, $14,175 (includes $2,800 from KDOC), "The K-State Technology Development Institute (TDI)."

COLLEGE OF HEALTH AND HUMAN SCIENCES

APPAREL, TEXTILES, AND INTERIOR DESIGN

Kaup, Migette L., and Doll, Gayle (Dean of Human Ecology), US Department of Health and Human Services, $146,166, "PEAK 2.0 Evaluation."

LeHew, Melody L. A., Dollarhide, Patricia J. (Dean of Veterinary Medical Center), Kwong, Junhee (Hospitality Management), and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Agriculture, $6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Wu, Yingying, Gneiss Concepts, LLC, $5,000, "Gneiss Concepts MOA."

DEAN OF HUMAN ECOLOGY

Buckwalter, John, Cortez, Anita R. (Vice Provost for Undergraduate Studies), and Rosenkranz, Sara (Food, Nutrition, Dietetics and Health), US Department of Health and Human Services, $26,668, "Kansas Bridges to the Future."

Doll, Gayle, and Syme, Maggie L., Patrick and Catherine Weldon Donaghue Medical Research Fund, $52,335, "Resident and Institutional Outcomes of Person Centered Care: A Longitudinal Evaluation of the Promoting Excellent Alternative in Kansas Nursing Homes."


Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, $1,977,450, "Early Childhood Workforce Development Grant."

Fees, Bronwyn S., Kansas Child Care Training Opportunities, Inc, $237,600, "Kansas Child Care Training Opportunities."

Fees, Bronwyn S., Kansas Department for Children and Families, $315,377, "KCCTO - Statewide Infant - Toddler Specialist Network."

Syme, Maggie L., and Doll, Gayle, Patrick and Catherine Weldon Donaghue Medical Research Fund, $78,503, "Resident and Institutional Outcomes of Person Centered Care: A Longitudinal Evaluation of the Promoting Excellent Alternative in Kansas Nursing Homes."

Toews, Michelle L., Johannes, Elaine M. (School of Family Studies and Human Services), and Vennum, Amber V. (School of Family Studies and Human Services), US Department of Health and Human Services, $186,436, "Healthy REWARDS (Relationships, Expectations, Willpower, Aspirations, Reactions, Decisions, Self-esteem): An Evidence-Based Approach to Sexual Risk Avoidance."

FOOD, NUTRITION, DIETETICS AND HEALTH


Haub, Mark D., and Rosenkranz, Sara, MGP Ingredients, Inc., $11,933, "Glycemic and Insulinemic Response to Nutritional Bars With or Without Added Fibersym RW."

Kidd, Tandalayo, US Department of Agriculture, $51,518, "Get Fruved: A Peer-Led, Train-the-Trainer Social Marketing Intervention to Increase Fruit and Vegetable Intake and Prevent Childhood Obesity."


Koppel, Kadri, JM Smucker Company, $6,000, "Descriptive Analysis of Dog Treats."

Koppel, Kadri, Kemin Industries, $35,000, "Dog Preference Testing."


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

Pacinelli, Lauren E., and Thiele, Ryan, Mid-America Athletic Trainers' Association (MAATA), $2,000, "Effect of Low-Load Low-Intensity Training with Blood Flow Restriction on the Triceps Surae and Achilles Tendon."

Rosenkranz, Richard R., US Department of Agriculture, $22,663, "Dissemination of the Evidence-Based SWITCH Program for Childhood Obesity Prevention."


Rosenkranz, Sara, and Ade, Carl (Kinesiology), California Strawberry Commission, $49,939, "Integrated Cardiovascular and Metabolic Effects of Strawberry Consumption in Overweight and Obese Individuals."

Rosenkranz, Sara, and Haub, Mark D., Isagenix International, LLC, $2,478, "Determining the Impact of Meal Replacement Products on Human Blood Glucose Levels."

Rosenkranz, Sara, and Haub, Mark D., MGP Ingredients, Inc., $27,843, "Glycemic and Insulinemic Response to Nutritional Bars With or Without Added Fibersym RW."

Rosenkranz, Sara, Buckwalter, John (Dean of Human Ecology), and Cortez, Anita R. (Vice Provost for Undergraduate Studies), US Department of Health and Human Services, $213,346, "Kansas Bridges to the Future."

Sauer, Kevin L., Roberts, Kevin R. (Hospitality Management), and Shanklin, Carol W. (Dean of Graduate School), US Department of Agriculture, $290,865, "Center for Food Safety in Child Nutrition Programs."


Thiele, Ryan, and Pacinelli, Lauren E., Mid-America Athletic Trainers' Association (MAATA), "Effect of Low-Load Low-Intensity Training with Blood Flow Restriction on the Triceps Surae and Achilles Tendon."

Thiele, Ryan, and Williams, Jeffrey, Mid-America Athletic Trainers' Association (MAATA), "The Effects of Aerobic Exercise and Peristaltic Pulse Compression on Neuromuscular Performance Following Exercise-induced Muscle Damage."

Wang, Weiqun (George), US Department of Agriculture, $56,984, "Determining the Bioavailability of Sorghum Phenolic Compounds."

Williams, Jeffrey, and Thiele, Ryan, Mid-America Athletic Trainers' Association (MAATA), $2,000, "The Effects of Aerobic Exercise and Peristaltic Pulse Compression on Neuromuscular Performance Following Exercise-induced Muscle Damage."

HOSPITALITY MANAGEMENT

Jang, Jichul, Kansas State University Foundation, $3,500, "Safe and Healthy Sushi Cooking for Elderly People (Hyunghwa Oh)."

Kwon, Junehee, Dollarhide, Patricia J. (Dean of Veterinary Medical Center), LeHew, Melody L. A. (Apparel, Textiles, and Interior Design), and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Agriculture, $6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Roberts, Kevin R., Sauer, Kevin L. (Food, Nutrition, Dietetics and Health), and Shanklin, Carol W. (Dean of Graduate School), US Department of Agriculture, $290,865, "Center for Food Safety in Child Nutrition Programs."

KINESIOLOGY

Ade, Carl, and Rosenkranz, Sara (Food, Nutrition, Dietetics and Health), California Strawberry Commission, $21,402, "Integrated Cardiovascular and Metabolic Effects of Strawberry Consumption in Overweight and Obese Individuals."

Ade, Carl, National Aeronautics and Space Administration, $50,535, "Omics and Biochemical Markers of Cardiovascular and Bone Health: Relationship with Bedrest and Standard Physiological Measures."

Ade, Carl, Copp, Steven, and Musch, Timothy L., US Department of Health and Human Services, $59,848, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."

Besenyi, Gina M., Heinrich, Katie M., and Kliewer, Brandon W. (School of Leadership Studies), Engagement Scholarship Consortium, $1,040, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Besenyi, Gina M., US Department of Health and Human Services, $28,991, "eCPAT: Advancing Public Park Information and Technology Resources to Diverse Audiences for Healthy Communities."

Colburn, Trenton D., Musch, Timothy L., and Poole, David C. (Anatomy and Physiology), US Department of Health and Human Services, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Copp, Steven, Ade, Carl, and Musch, Timothy L., US Department of Health and Human Services, $209,467, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."
Harms, Craig A., and Heinrich, Katie M., US Department of Health and Human Services, $46,245, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Heinrich, Katie M., Besenyi, Gina M., and Kliewer, Brandon W. (School of Leadership Studies), Engagement Scholarship Consortium, $1,040, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Heinrich, Katie M., and Harms, Craig A., US Department of Health and Human Services, $416,209, "HIFT for Obesity Prevention, Fitness and Health Promotion in Military Personnel."

Musch, Timothy I., Ade, Carl, and Copp, Steven, US Department of Health and Human Services, $29,924, "Exercise Pressor Reflex Dysfunction in Heart Failure: Mechanisms and Treatment."

Musch, Timothy I., Colburn, Trenton D., and Poole, David C. (Anatomy and Physiology), US Department of Health and Human Services, $8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Poole, David C., Colburn, Trenton D., and Musch, Timothy I. (Anatomy and Physiology), US Department of Health and Human Services, $8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

SCHOOL OF FAMILY STUDIES AND HUMAN SERVICES

Baptist, Joyce, EMDR Research Foundation, $25,000, "Treating Suicidal Drivers with EMDR Therapy: A Randomized Controlled Trial."

Butler, Meredith A., US Department of Agriculture, $2,688,210, "4-H Military Partnerships and Outreach Support Program."

Butler, Meredith A., US Department of Agriculture, $500,000, "CYFAR 4-H Military Partnership Professional Development and Technical Assistance Program."

Durtschi, Jared A., US Department of Health and Human Services, $6,000, "Determining Functional Components of an Evidence-Based Parenting Intervention."


Johannes, Elaine M., Chladny, Bruce A. (County Agents - Metropolitan Sector), Paul, Gregory (Communication Studies), and Williams, L. Susan (Sociology, Anthropology, and Social Work), US Department of Justice, $146,105, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

Kiss, D. Elizabeth, US Department of Agriculture, $5,000, "Integrating and Sustaining Financial Capability Services in Rural Healthcare Delivery."


COLLEGE OF VETERINARY MEDICINE

ANATOMY AND PHYSIOLOGY
Choi, Seongo, QuadMedicine, $26,000, "Development of Flexible Microneedle Patches for Drug Delivery Through Contoured Skin Surfaces."

Choi, Seongo, US Department of Agriculture, $65,000, "Spray-formed Dissolving Microneedle Patches for Enhanced Stability and Needle-free Delivery of Vaccines."

Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), Lin, Zhoumeng, and Magnin, Geraldine C., American Association of Swine Veterinarians Foundation, $2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Coetzee, Johann F., and Viscardi, Abbie, National Pork Board, $50,927, "Evaluation of Transmammary-Delivered Firocoxib and a Vapocoolant Spray to Alleviate Pain in Piglets after Surgical Castration and Tail Docking."

DeLong, Robert K., Johnson Center for Basic Cancer Research, $1,400, "Graduate Travel Award for Johnson Center for Basic Research."


Ensley, Steve M., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, $22,800, "Rsvdl Vet-LRN Veterinary Diagnostic Laboratory Program."

Ensley, Steve M., Lubbers, Brian (Veterinary Diagnostic Laboratory), and Magnin, Geraldine C., US Department of Health and Human Services, $50,769, "Vet-LIRN Network Capacity-building Project for Kansas State University."

Kukanich, Stanley P., and KuKanich, Katherine (Clinical Sciences), Morris Animal Foundation, $500, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate (for Kallie Woodruff - VRSP Student)."

Kukanich, Stanley P., and KuKanich, Katherine (Clinical Sciences), Winn Feline Foundation, $2,546, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate."

Lin, Zhoumeng, Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), and Magnin, Geraldine C., American Association of Swine Veterinarians Foundation, $2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Lin, Zhoumeng, and Jaberi-Douraki, Majid (Mathematics), US Department of Agriculture, $221,000, "Food Animal Residue Avoidance Databank (Farad)."
Lin, Zhoumeng, and DeLong, Robert K., US Department of Health and Human Services, $72,200, "Physiologically Based Pharmacokinetic Modeling and Analysis of Nanoparticle Delivery to Tumors."

Magnin, Geraldine C., Coetzee, Johann F., Kleinhenz, Michael D. (Clinical Sciences), and Lin, Zhoumeng, American Association of Swine Veterinarians Foundation, $2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

Magnin, Geraldine C., Chao, Michael (Animal Sciences and Industry), and O'Quinn, Travis G. (Animal Sciences and Industry), National Cattlemen's Beef Association, $2,700, "Utilizing Collagen Crosslinks as Markers for Sensory Improvement of Beef Shin/Shank Cuts."

Magnin, Geraldine C., Ensley, Steve M., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, $49,276, "Vet-LIRN Network Capacity-building Project for Kansas State University."


Musch, Timothy I., Colburn, Trenton D. (Kinesiology), and Poole, David C. (Kinesiology), US Department of Health and Human Services, $8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."

Poole, David C., Colburn, Trenton D. (Kinesiology), and Musch, Timothy I., US Department of Health and Human Services, $8,212, "Sexual Dimorphism in the Physiological Function of KATP Channels (Trenton Colburn)."


Shi, Jishu N., Blecha, Frank (Dean of Veterinary Medical Center), and Wang, Lei (Dean of Veterinary Medical Center), Yebio Bioengineering Co. Ltd of Qingdao, $67,500, "Yebio Scholarship/US-China Joint DVM Program."

Shi, Jishu N., Blecha, Frank (Dean of Veterinary Medical Center), and Wang, Lei (Dean of Veterinary Medical Center), Zoetis LLC, $90,000, "International Veterinary Collaboration for China DVM Program."

Viscardi, Abbie, and Coetzee, Johann F., National Pork Board, $50,927, "Evaluation of Transmammary-Delivered Firocoxib and a Vapocoolant Spray to Alleviate Pain in Piglets after Surgical Castration and Tail Docking."

Weiss, Mark L., and Bai, Jianfa (Diagnostic Medicine/Pathobiology), Biological Industries Ltd, $33,750, "Development of qPCR Mycoplasma Kit, Stage 1."

Weiss, Mark L., Kansas State University Foundation, $15,000, "Innovative Research Award."

Xiong, Yulan, Kansas State University, $53,200, "Understanding the ArfGAP1 Function in LRRK2-linked Neuronal Plasticity in Parkinson's Disease."

Xiong, Yulan, Parkinson's Disease Foundation, $100,000, "Understanding LRRK2 GTPase Function in Parkinson's Disease."
Xiong, Yulan, US Department of Health and Human Services, $128,520, "The Role of Aging in LRRK2-Associated Parkinson's Disease."

Yu, Jianzhong, Kansas State University Foundation, $25,000, "KSU Cancer Center - Innovative Research Award."

Yu, Jianzhong, Kansas State University Foundation, $7,000, "KSU Cancer Center Summer Stipends Award."

Yu, Jianzhong, US Department of Health and Human Services, $112,500, "Functional Characterization of a Novel Akt Substrate in InR/PI3K/Akt Signaling Pathway."

CLINICAL SCIENCES


Amachawadi, Raghavendra G., Apley, Michael D., Dritz, Steven S. (Diagnostic Medicine/Pathobiology), Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), and Tokach, Michael D. (Animal Sciences and Industry), National Pork Board, $71,434, "Metagenomics Approach to Delineate the Impact of Antibiotic Administration Route on Gut Microbial Changes and Antimicrobial Resistome in Nursery Piglets."

Amachawadi, Raghavendra G., and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Purina Animal Nutrition, LLC, $24,654, "Evaluation of Antimicrobial Activities of Purina's Compounds on Major Bacterial Species Involved in Liver Abscesses of Cattle."

Amachawadi, Raghavendra G., Apley, Michael D., Lubbers, Brian (Veterinary Diagnostic Laboratory), and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, $819, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

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

Apley, Michael D., Amachawadi, Raghavendra G., Lubbers, Brian (Veterinary Diagnostic Laboratory), and Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, $117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Apley, Michael D., and Lubbers, Brian (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, $201,000, "Characterization of Antimicrobial Use in Beef Feedlots and Dairies."

Beard, Warren L., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and Prakash, Punit (Electrical and Computer Engineering), National Science Foundation, $21,061, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

Beard, Warren L., Biller, David S., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and Prakash, Punit (Electrical and Computer Engineering), US Department of Health and Human Services, $26,615, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Biller, David S., Beard, Warren L., Ganta, Chanran K. (Veterinary Diagnostic Laboratory), and Prakash, Punit (Electrical and Computer Engineering), US Department of Health and Human Services, $23,658, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

Eshar, David, Herrin, Brian (Diagnostic Medicine/Pathobiology), Schneider, Sarah M. (Veterinary Diagnostic Laboratory), and Schwartz, Diana (Veterinary Diagnostic Laboratory), National Center for Veterinary Parasitology, $2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Harkin, Kenneth R., and Hetrick, Merry Caitlin (Veterinary Health Center), MYOS RENS Technology Inc, $10,250, "Evaluation of Fortetropin on Quality of Life and Activity in Geriatric Dogs."


Jugan, Maria C., Comparative Gastroenterology Society, $11,986, "Correlation of Anemia, Iron Status, and Cobalamin in Cats with GI Disease."

Kleinhenz, Michael D., Coetzee, Johann F. (Anatomy and Physiology), Lin, Zhoumeng (Anatomy and Physiology), and Magnin, Geraldine C. (Anatomy and Physiology), American Association of Swine Veterinarians Foundation, $2,575, "Investigating the Plasma Pharmacokinetics and Tissue Residues of Oral Firocoxib Following Transmammary Delivery from SOWS to Piglets."

KuKanich, Katherine, and Reif, Kathryn E. (Computer Science), Foundation for Food and Agriculture Research, $1,600, "Veterinary Student Research Fellowship for Summer of 2019."

KuKanich, Katherine, and Kukanich, Stanley P. (Anatomy and Physiology), Morris Animal Foundation, $4,500, "Evaluation of Feline Urine Concentrations of Amoxicillin and Clavulanate (for Kallie Woodruff - VRSP Student)."

KuKanich, Katherine, and Rost, Caroline M. (Dean of Veterinary Medical Center), US Department of Health and Human Services, $4,750, "This is How We Role."


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


DEAN OF VETERINARY MEDICAL CENTER
Amrine, David E., Larson, Robert L. (Clinical Sciences), Pendell, Dustin L. (Agricultural Economics), Weaber, Robert L. (Animal Sciences and Industry), and White, Bradley J., American Angus Association, $36,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."
Blecha, Frank, Shi, Jishu N. (Anatomy and Physiology), and Wang, Lei, Yebio Bioengineering Co. Ltd of Qingdao, $15,000, "Yebio Scholarship/US-China Joint DVM Program."

Blecha, Frank, Shi, Jishu N. (Anatomy and Physiology), and Wang, Lei, Zoetis LLC, $20,000, "International Veterinary Collaboration for China DVM Program."


Dollarhide, Patricia J., Kwon, Junehee (Hospitality Management), LeHew, Melody L. A. (Apparel, Textiles, and Interior Design), and White, Bradley J., US Department of Agriculture, $12,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

Rost, Caroline M., and KuKanich, Katherine (Clinical Sciences), US Department of Health and Human Services, $250, "This is How We Role."

Thomson, Daniel U., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), and Volkova, Victoriya (Diagnostic Medicine/Pathobiology), US Department of Agriculture, $50,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."


Wang, Lei, Blecha, Frank, and Shi, Jishu N. (Anatomy and Physiology), Zoetis LLC, $90,000, "International Veterinary Collaboration for China DVM Program."

White, Bradley J., Amrine, David E., Larson, Robert L. (Clinical Sciences), Pendell, Dustin L. (Agricultural Economics), and Weaber, Robert L. (Animal Sciences and Industry), American Angus Association, $30,000, "BCI Health Knowledge Network: Monitoring Cattle Heart Syndromes."

White, Bradley J., American Association of Bovine Practitioners, $4,000, "BCI Providing Online CE Platform for AABP."

White, Bradley J., Kansas Department of Agriculture, $211,260, "Kansas Cattle Traceability Pilot Project."


White, Bradley J., Dollarhide, Patricia J., Kwon, Junehee (Hospitality Management), and LeHew, Melody L. A. (Apparel, Textiles, and Interior Design), US Department of Agriculture, $6,000, "Connecting Supply Chain Through Sustainability: Initiating A Multi-Disciplinary Multi-Industry Approach Using the Case of Beef Cattle."

White, Bradley J., Nagaraja, Tiruvoor G. (Diagnostic Medicine/Pathobiology), Renter, David G. (Diagnostic Medicine/Pathobiology), and Sanderson, Michael W. (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, $95,277, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

DIAGNOSTIC MEDICINE/PATHOBIOLOGY
Bai, Jianfa, and Weiss, Mark L. (Anatomy and Physiology), Biological Industries Ltd, $11,250, "Development of qPCR Mycoplasma Kit, Stage 1."

Chang, Kyeong-Ok, Cocrystal Pharma, Inc., $15,200, "Master Laboratory Service Agreement - Task Order #1."
Chang, Kyeong-Ok, and Kim, Yunjeong, US Department of Health and Human Services, $367,462, "Small Molecule Protease Inhibitors against MERS-CoV."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Ajinomoto Heartland LLC, $8,000, "Tryptophan Requirement of Finishing Pigs Fed Ractopamine HCl."


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

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


Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Iowa Select Farms, $12,000, "Iowa Select Student Fellowship."


Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Iowa Select Farms, $12,000, "Iowa Select Student Fellowship."

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

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Micronutrients, $12,000, "Micronutrients Student Fellowship."


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


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

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Origination Inc, $12,000, "Determination of Efficacy of a Novel Phytase Source in Nursery Pigs."
Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), PIC North America (PIC USA, Inc.), $12,000, "PIC Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Pipestone Grow Finish, $12,000, "Pipestone Grow-Finish Graduate Student Fellowship."

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Purco, $5,400, "PURCO Project."

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Purina Animal Nutrition, LLC, $10,137, "Assessing the Effects of MCFA on PEDV Quantity and Infectivity-Phase 3 Bioassay."

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

Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), SVC Research, LLC, $16,000, "KSU Applied Swine Nutrition Fellowship."

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

Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), Niederwerder, Megan, and Woodworth, Jason C. (Animal Sciences and Industry), Swine Health Information Center, $15,478, "Assessing Distribution and Mitigation of Senecavirus A, a Foot and Mouth Disease Surrogate, in a Swine Feed Mill."


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


Dritz, Steven S., DeRouchey, Joel M. (Animal Sciences and Industry), Goodband, Robert D. (Animal Sciences and Industry), Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), United Soybean Board, $9,699, "Determining the Productive Energy Content of Soybean Meal."
Dryden, Michael W., and Herrin, Brian, Zoetis LLC, $64,758, "Evaluation of a Topical Sarolaner-selamectin Combination to Control Flea Populations on Naturally Infested Cats in Private Residences in Tampa, FL - 2019."

Faburay, Bonto, Fang, Ying, Li, Yanhua, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, $9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Fang, Ying, Faburay, Bonto, Li, Yanhua, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, $54,670, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Fang, Ying, US Department of Agriculture, $227,700, "Development of Novel Foot and Mouth Disease Virus with Mutations in Lpro for Evaluation As Live Attenuated Vaccine (LAV) Candidates."

Ganta, Roman Reddy R., ABAXIS, Inc., $48,884, "Indirect Fluorescent Antibody Test Assessment of Ehrlichia, Anaplasma and Borrelia Species Infections in Dogs."


Ganta, Roman Reddy R., Merial, Inc., $72,000, "Evaluation of Clinical Protection Afforded by Prototypes PNAG Vaccines in an Ehrlichis Canis Laboratory Model in Dogs."

Ganta, Roman Reddy R., Saint George's University, $60,000, "Training Grant Funds Work Agreement - Postdoctoral Scholars Program (PSP) Training Grant."

Hardwidge, Philip R., and Richt, Juergen, Kansas Board of Regents, $20,000, "Laser Capture Microdissection Instrumentation for the COBRE Center of Emerging and Zoonotic Infectious Diseases (EZID)."

Hardwidge, Philip R., US Department of Health and Human Services, $7,018, "KUCR CBID CoBRE Mentor for Dr. Stephanie Shames."

Hardwidge, Philip R., US Department of Health and Human Services, $281,593, "Using Anti-Inflammatory Bacterial Proteins to Treat Psoriasis."

Herrin, Brian, Eshar, David (Clinical Sciences), Schneider, Sarah M. (Veterinary Diagnostic Laboratory), and Schwartz, Diana (Veterinary Diagnostic Laboratory), National Center for Veterinary Parasitology, $5,948, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Herrin, Brian, and Dryden, Michael W., Zoetis LLC, $64,758, "Evaluation of a Topical Sarolaner-selamectin Combination to Control Flea Populations on Naturally Infested Cats in Private Residences in Tampa, FL - 2019."

Huang, Yan-Jang S., Higgs, Stephen (Biosecurity Research Institute), and Vanlandingham, Dana L., BioNexus KC, $30,000, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

Huang, Yan-Jang S., and Vanlandingham, Dana L., Ceras Corporation, $73,202, "Evaluation of West Nile Virus Inactivation in Blood Products - Phase IV."

Kim, Yunjeong, and Chang, Kyeong-Ok, US Department of Health and Human Services, $367,462, "Small Molecule Protease Inhibitors against MERS-CoV."

Li, Yanhua, Faburay, Bonto, Fang, Ying, Niederwerder, Megan, and Rowland, Raymond R. R., National Pork Board, $9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."

Ma, Wenjun, US Department of Health and Human Services, $409,517, "Biology and Infection of Bats with Novel Bat Influenza Viruses."

Ma, Wenjun, and Richt, Juergen, US Department of Health and Human Services, $39,149, "Host Dependence of Influenza A Virus Reassortment."


Morozov, Igor, and Richt, Juergen, Farmak International Holding GmbH, $11,103, "Research Task Order."


Mosier, Derek A., Montelone, Beth A. (Research Vice President), and Shanklin, Carol W. (Dean of Graduate School), US Department of Agriculture, $1,323,680, "NBAF Scientist Training Program."

Mosier, Derek A., US Department of Health and Human Services, $537,730, "IPA for Tammy Beckham."

Mwangi, Waithaka, US Department of Health and Human Services, $61,090, "Defining clinically relevant viral epitopes with cow antibodies."

Nagaraja, Tiruvoor G., and Amachawadi, Raghavendra G. (Clinical Sciences), Elanco Animal Health, $38,380, "Development and Protection Assessment of Fusobacterial Leukotoxin-based Vaccines Augmented with Recombinant Leukotoxin and Recombinant Outer Membrane Protein against Bovine Liver Abscesses."

Nagaraja, Tiruvoor G., and Amachawadi, Raghavendra G. (Clinical Sciences), Purina Animal Nutrition, LLC, $24,654, "Evaluation of Antimicrobial Activities of Purina's Compounds on Major Bacterial Species Involved in Liver Abscesses of Cattle."

Nagaraja, Tiruvoor G., and Amachawadi, Raghavendra G. (Clinical Sciences), Apley, Michael D. (Clinical Sciences), and Lubbers, Brian (Veterinary Diagnostic Laboratory), Sensient Technologies Corporation, $117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."
Nagaraja, Tiruvoor G., Thomson, Daniel U. (Dean of Veterinary Medical Center), and Volkova, Victoriya, US Department of Agriculture, $50,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."

Nagaraja, Tiruvoor G., Renter, David G., Sanderson, Michael W., and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Health and Human Services, $23,819, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Nguyen, Thu A., Boehringer Ingelheim, $20,000, "2019 Boehringer Ingelheim Veterinary Scholars Program."


Niederwerder, Megan, Elanco Animal Health, $367,500, "Evaluating the Effects of Prophylactic Gut Microbiota Transplantation on the Time Course of Co-infection with PRRSV and PCV2d."

Niederwerder, Megan, and Rowland, Raymond R. R., Kemin Industries, $106,250, "Understanding the Survivability and Infectivity of African Swine Fever Virus In Various Environments."

Niederwerder, Megan, Faburay, Bonto, Fang, Ying, Li, Yanhua, and Rowland, Raymond R. R., National Pork Board, $9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."


Niederwerder, Megan, Purina Animal Nutrition, LLC, $146,900, "Investigating Viral Mitigation in Feed."


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, $8,702, "A Validated Method to Test Bulk Feed Products and Applying it to Monitoring Shipments for Pathogen Contamination."

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

Niederwerder, Megan, Dritz, Steven S., Jones, Cassandra K., (Animal Sciences and Industry), Rowland, Raymond R. R., Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Swine Health Information Center, $14,724, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."

Renter, David G., Merck Animal Health, $33,744, "Assessing the Economics Associated with Cattle Health and Production Research Trial Results."
Renter, David G., Nagaraja, Tiruvoor G., Sanderson, Michael W., and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Health and Human Services, $11,910, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."


**Richt, Juergen**, and **Hardwidge, Philip R.**, Kansas Board of Regents, $80,000, "Laser Capture Microdissection Instrumentation for the COBRE Center of Emerging and Zoonotic Infectious Diseases (EZID)."


**Richt, Juergen**, US Department of Agriculture, $371,000, "Understanding Pathogenesis and Epidemiology for Controlling Foreign Animal Diseases."

**Richt, Juergen**, US Department of Health and Human Services, $157,263, "Harnessing Natural Killer T Cells to Counteract Swine Influenza."

**Richt, Juergen**, and **Ma, Wenjun**, US Department of Health and Human Services, $58,723, "Host Dependence of Influenza A Virus Reassortment."


Rowland, Raymond R. R., Faburay, Bonto, Fang, Ying, Li, Yanhua, and Niederwerder, Megan, National Pork Board, $9,112, "Development of ASFV-specific Monoclonal Antibodies and mAB-based Blocking ELISA."


Rowland, Raymond R. R., PIC North America (PIC USA, Inc.), $37,542, "Task Order - Cell based PRRSv Challenge."

Rowland, Raymond R. R., PIC USA, Inc., $25,950, "Task Order #2 - Evaluation of PDCoV Infection in ANPEP KO Pigs."

Rowland, Raymond R. R., PIC USA, Inc., $60,652, "Task Order 3 - PRRSV Challenge of CD163 Modified and WT Pigs."


Rowland, Raymond R. R., Dritz, Steven S., Jones, Cassandra K. (Animal Sciences and Industry), Niederwerder, Megan, Tokach, Michael D. (Animal Sciences and Industry), and Woodworth, Jason C. (Animal Sciences and Industry), Swine Health Information Center, $2,103, "Assessing Tools for the Mitigation of Foreign Animal Disease Introduction and Transmission in Feed."


Rowland, Raymond R. R., US Department of Agriculture, $40,030, "Genetically Improving Resistance of Pigs to PRRS Virus Infection."

Sanderson, Michael W., US Department of Agriculture, $44,700, "A Secure Beef Supply (SBS) Plan for Business Continuity in a Foot and Mouth Disease Outbreak."

Sanderson, Michael W., Nagaraja, Tiruvoor G., Renter, David G., and White, Bradley J. (Dean of Veterinary Medical Center), US Department of Health and Human Services, $107,187, "Exposure Heterogeneity and Environmental Transmission Dynamics of Escherichia coli: Linking Mechanisms and Patterns."

Springer, Nora L., Johnson Center for Basic Cancer Research, $23,709, "Premature Adipose Tissue Aging During Childhood Obesity Promotes Adulthood Colorectal Cancer."

Springer, Nora L., Johnson Center for Basic Cancer Research, $8,983, "Summer Stipend Award for Brandy Kastl."

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

Development of an Efficacious DIVA Compatible Vaccine for Rift Valley Fever Virus and Complementary DIVA Diagnostic.

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

**Vanlandingham, Dana L., Higgs, Stephen** (Biosecurity Research Institute), and **Huang, Yan-Jang S.**, BioNexus KC, $17,500, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

**Vanlandingham, Dana L., and Huang, Yan-Jang S.**, Ceres Corporation, $73,202, "Evaluation of West Nile Virus Inactivation in Blood Products - Phase IV."


**Volkova, Victoriya, Nagaraja, Tiruvoor G.,** and **Thomson, Daniel U.** (Dean of Veterinary Medical Center), US Department of Agriculture, $100,000, "Bacteriophage Use to Prevent Liver Abscess Caused by Fusobacterium Necrophorum: Proof of Concept Studies."


**Volkova, Victoriya,** and **Lubbers, Brian** (Veterinary Diagnostic Laboratory), US Department of Health and Human Services, $139,793, "Retail Meat Surveillance in the State of Kansas as a Part of the National Antimicrobial Resistance Monitoring System."

**VETERINARY DIAGNOSTIC LABORATORY**

**Ganta, Chanran K., Beard, Warren L.** (Clinical Sciences), and **Prakash, Punit** (Electrical and Computer Engineering), National Science Foundation, $21,061, "STTR Phase I: Directional Minimally Invasive Microwave Antenna for Precise Spatial Control of Thermal Ablation."

**Ganta, Chanran K., Beard, Warren L.** (Clinical Sciences), **Biller, David S.** (Clinical Sciences), and **Prakash, Punit** (Electrical and Computer Engineering), US Department of Health and Human Services, $26,615, "Bronchoscope-guided Microwave Ablation of Early-Stage Lung Tumors."

**Henningson, Jamie N.**, US Department of Agriculture, $4,125, "NAHLN AMR Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $2,000, "NAHLN CSF and ASF Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $4,375, "NAHLN CSF Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $500, "NAHLN FAD Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $300, "NAHLN PRV Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $250, "NAHLN RAD Testing."

**Henningson, Jamie N.**, US Department of Agriculture, $24,000, "NAHLN Scrapie Testing."
Henningson, Jamie N., and Lubbers, Brian, Zoetis LLC, $66,875, "Pathogen Investigation, Surveillance and Acquisition Collaboration Agreement."

Lubbers, Brian, Amachawadi, Raghavendra G. (Clinical Sciences), Apley, Michael D. (Clinical Sciences), and Nagaraja, Tiruvor G. (Diagnostic Medicine/Pathobiology), Sensient Technologies Corporation, $117, "Antibacterial Effects of Sensient Yeast Product on Foodborne Pathogenic Bacteria."

Lubbers, Brian, and Apley, Michael D. (Clinical Sciences), US Department of Health and Human Services, $99,000, "Characterization of Antimicrobial Use in Beef Feedlots and Dairies."

Lubbers, Brian, and Volkova, Victoriya (Diagnostic Medicine/Pathobiology), US Department of Health and Human Services, "Retail Meat Surveillance in the State of Kansas as a Part of the National Antimicrobial Resistance Monitoring System."

Lubbers, Brian, and Ensley, Steve M. (Anatomy and Physiology), US Department of Health and Human Services, $22,800, "RSVDL Vet-LRN Veterinary Diagnostic Laboratory Program."

Lubbers, Brian, Ensley, Steve M. (Anatomy and Physiology), and Magnin, Geraldine C. (Anatomy and Physiology), US Department of Health and Human Services, $49,276, "Vet-LIRN Network Capacity -building Project for Kansas State University."

Lubbers, Brian, and Henningson, Jamie N., Zoetis LLC, $66,875, "Pathogen Investigation, Surveillance and Acquisition Collaboration Agreement."

Marthaler, Douglas, Boehringer Ingelheim, $35,000, "Utilizing Whole Genome Sequencing to Investigate PRRS Introductions and Evolution in a Sow System."


Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), $160,684, "Analysis of Serum Anti-Rabies Purchase Order 4800017197."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), $71,561, "KSU SAM Rabies 2017.07-2018. Purchase Order 4800018902."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), $28,000, "Non-GLP Immunological Assays Preclinical, Preclinical Evidence Generation and Bioassays (PEGB)."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), $48,869, "SAM-Rabies CNE Mouse Study #3 - (0164-18) In vivo Testing of CNE with Varying DOTAP Levels in Balb/C Mice."

Moore, Susan M., Corixa Corporation (d/b/a GSK Vaccines), $3,726, "Serology on Serum Samples Collected on an Exploratory Toxicity Study in Rats - Alny Lipid Comparison (CRO Study Number 2327-14315)."

Moore, Susan M., CureVac GmbH, $199,557, "A Research Study Quantifying Anti-Rabies Neutralizing Antibody by the Validated RFFIT Assay Per SOPs KSVDL-RAB-RFFIT-1-16 and RSVDLRAB-RFFIT-2-16 (or current versions) in (human) Serum Following Immunization with mRNA Vaccines."

Moore, Susan M., CureVac GmbH, $61,236, "A Research Study Quantifying Anti-rabies Neutralizing Antibody by the Validated RFFIT Assay per SOP KSVDL-RAB-REFIT-1-16 and RSVDL-RABRFFIT-2-16 (or current versions) in (monkey and mice) Serum following Immunization with mRNA Vaccines."

Moore, Susan M., US Department of Agriculture, $11,000, "Sponsorship of Rabies in the Americas (RITA) Conference."

Schneider, Sarah M., Eshar, David (Clinical Sciences), Herrin, Brian (Diagnostic Medicine/Pathobiology), and Schwartz, Diana, National Center for Veterinary Parasitology, $2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

Schwartz, Diana, Eshar, David (Clinical Sciences), Herrin, Brian (Diagnostic Medicine/Pathobiology), and Schneider, Sarah M., National Center for Veterinary Parasitology, $2,974, "Detection of Trypanosoma Cruzi in Triatominae Insects and Raccoons in Kansas."

VETERINARY HEALTH CENTER
Hetrick, Merry Caitlin, and Harkin, Kenneth R. (Clinical Sciences), MYOS RENS Technology Inc, $10,250, "Evaluation of Fortetropin on Quality of Life and Activity in Geriatric Dogs."

White, Dana A., Biller, David S. (Clinical Sciences), Harkin, Kenneth R. (Clinical Sciences), and Roush, James K. (Clinical Sciences), MYOS RENS Technology Inc, $3,888, "Evaluation of Fortetropin to Reverse Disuse Muscle Atrophy in Dogs after Tibial Plateau Leveling Osteotomy for Cranial Cruciate Ligament Rupture."

KANSAS COOPERATIVE EXTENSION SERVICE

AGRICULTURE AND NATURAL RESOURCES
Baldwin (Blocksome), Carolyn E., US Environmental Protection Agency, $10,000, "Kansas Flint Hills Smoke Management Plan."

Hadley, Gregg L., and Rice, Trudy M., Hansen Foundation, Dane G, $175,000, "Leading Locally - Working Together for Lasting Solutions."

Hadley, Gregg L., US Department of Agriculture, $256,800, "Kansas Agricultural Mediation Service."


Sigle, Nadine J., and Hadley, Gregg L. (Director of Cooperative Extension), Hansen Foundation, Dane G, $194,250, "2019 Community Intern Program."

COUNTY AGENTS - METROPOLITAN SECTOR
Buller, Thomas J., Kennelly, Megan (Plant Pathology), Nwadike, Londa S. (Director of Cooperative Extension), and Rivard, Cary L. (Horticulture and Natural Resources), US Department of Agriculture, $7,232, "Growing the Vegetable Producers Community with a Specialty Crop Growers Association."

Chladny, Bruce A., Johannes, Elaine M. (School of Family Studies and Human Services), Paul, Gregory (Communication Studies), and Williams, L. Susan (Sociology, Anthropology, and Social Work), US Department of Justice, $83,489, "The Comprehensive Strategy: Developing a Community Approach to Local Juvenile Justice Initiatives."

DIRECTOR OF COOPERATIVE EXTENSION
Hadley, Gregg L., and Sigle, Nadine J. (Agriculture and Natural Resources), Hansen Foundation, Dane G, "2019 Community Intern Program."

Hadley, Gregg L., and Ebert, Kerri L. (Horticulture and Natural Resources), University of Minnesota, $65,000, "Kansas SARE 2019-2020 PDP Plan of Work."
Nwadike, Londa S., Gragg, Sara E. (Animal Sciences and Industry), and Vipham, Jessie (Dean of Agriculture and Director of AES), US Department of Agriculture, $44,857, "Capacity Building and Development for Food Safety in Bangladesh: Creative Approaches to Train-the-Trainer Programs for Hazard Analysis Critical Control Points (HACCP)."

Nwadike, Londa S., Gragg, Sara E. (Animal Sciences and Industry), and Rivard, Cary L. (Horticulture and Natural Resources), US Department of Agriculture, $6,300, "Continued Successful Implementation of FSMA in the North Central Region through Adoption of a Systems Approach and Stakeholder Engagement."

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

Peters, Paula, and Minton, J. Ernest (Dean of Agriculture and Director of AES), University of Missouri, $68,374, "Memorandum of Agreement."


EXTENSION FAMILY AND CONSUMER SCIENCES
Procter, Sandra B., and Peters, Paula (Director of Cooperative Extension), US Department of Agriculture, $2,006,308, "Kansas Food Assistance Nutrition Education Plan."

FOUR-H YOUTH DEVELOPMENT


KANSAS FOREST SERVICE
Atchison, Robert L., US Department of Agriculture, $93,880, "High Resolution Land Cover and Wind Break Assessment Products of Kansas."

Atchison, Robert L., US Department of Agriculture, $540,664 (includes $36,000 from NRCS In-Kind Contribution), "NRCS Technical Service Provider."

Biles, Larry E., US Department of Agriculture, $3,749,822 (includes $1,422,143 from Third Party), "Consolidated Payment Grant 2018."


Biles, Larry E., Devlin, Daniel L. (Ks Ctr for Ag Rsrces & the Env / Ks Water Rsrce Rsrch Inst), Keane, Timothy D. (Landscape Architecture/Regional and Community Planning), Moorberg, Colby (Agronomy), Moore, Trisha L. (Biological and Agricultural Engineering), and Sheshukov, Aleksey Y. (Biological and Agricultural Engineering), US Department of the Interior, $2,366 (includes $2,366 from In-Kind), "Kansas Water Resources Research Institute 2016."

NORTHEAST AREAOFFICE

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

Duncan, Stewart R., 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), McCormack, Brian P. (Entomology), Miller, Frannie L. (Entomology), Peterson, Dallas E. (Agronomy), Rivard, Cary L. (Horticulture and Natural Resources), Stiffler, Brooke (Entomology), Upham, Ward S. (Horticulture and Natural Resources), and Zukoff, Sarah N. (Southwest Area Office), US Department of Agriculture, $13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Mack, Diane D., National 4-H Council, $20,000, "Kansas 4-H Ag Innovators Experience 2019."

NORTHWEST AREA OFFICE

Haag, Lucas A., Support Funds, $8,138, "XNW Support Funds Public Service Off Campus 26."

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

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

Haag, Lucas A., Ciampitti, Ignacio (Agronomy), Esser, Andrew R. (Agronomy), Holman, Johnathon D. (Southwest Research Extension Center), Obour, Augustine K. (Agricultural Research Center-Hays), Roozeboom, Kraig L. (Agronomy), and Stewart, Zachary P. (Dean of Agriculture and Director of AES), US Department of Agriculture, $25,751, "Sustainable Field Pea Cropping Systems for the Great Plains."


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

Johnson, Sandra K., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag Rsces & the Env / Ks Water Rsce Rsrch Inst), Golden, Bill B. (Agricultural Economics), Holman, Johnathon D. (Southwest Research Extension Center), Jaeger, John R. (Agricultural Research Center-Hays), Kulesza, Stacey E. (Civil Engineering), Lamm, Freddie R. (Northwest Research Extension Center), Lin, Xiaomao (Agronomy), Obour, Augustine K. (Agricultural Research Center-Hays), O'Brien, Daniel M., Rogers, Danny H. (Biological and Agricultural Engineering), Schlegel, Alan J. (Southwest Research Extension Center), and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Mack, Diane D., National 4-H Council, $20,000, "Kansas 4-H Ag Innovators Experience 2019."

NORTHWEST AREA OFFICE

Haag, Lucas A., Support Funds, $8,138, "XNW Support Funds Public Service Off Campus 26."

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

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

Haag, Lucas A., Ciampitti, Ignacio (Agronomy), Esser, Andrew R. (Agronomy), Holman, Johnathon D. (Southwest Research Extension Center), Obour, Augustine K. (Agricultural Research Center-Hays), Roozeboom, Kraig L. (Agronomy), and Stewart, Zachary P. (Dean of Agriculture and Director of AES), US Department of Agriculture, $25,751, "Sustainable Field Pea Cropping Systems for the Great Plains."


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

Johnson, Sandra K., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag Rsces & the Env / Ks Water Rsce Rsrch Inst), Golden, Bill B. (Agricultural Economics), Holman, Johnathon D. (Southwest Research Extension Center), Jaeger, John R. (Agricultural Research Center-Hays), Kulesza, Stacey E. (Civil Engineering), Lamm, Freddie R. (Northwest Research Extension Center), Lin, Xiaomao (Agronomy), Obour, Augustine K. (Agricultural Research Center-Hays), O'Brien, Daniel M., Rogers, Danny H. (Biological and Agricultural Engineering), Schlegel, Alan J. (Southwest Research Extension Center), and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $13,836, "Merging Traditional Methods with Transformative Approaches to Enhance Stakeholder Engagement and IPM Adoption."

Mack, Diane D., National 4-H Council, $20,000, "Kansas 4-H Ag Innovators Experience 2019."
Agriculture, $6,325, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

O'Brien, Daniel M., Ciampitti, Ignacio (Agronomy), Duncan, Stewart R. (Northeast Area Office), Jardine, Douglas J. (Plant Pathology), Knapp, Mary C. (Agronomy), McComb, Brian P. (Entomology), and Ruiz Diaz Suarez, Dorivar A. (Agronomy), Kansas Soybean Commission, $4,125, "Improving Soybean Yields by Enhancing Seed Filling."

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

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

O'Brien, Daniel M., Aguilar, Jonathan P. (Southwest Area Office), Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag 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), Lam, Freddie R. (Northwest Research Extension Center), Lin, Xiaomao (Agronomy), Obour, Augustine K. (Agricultural Research Center-Hays), Rogers, Danny H. (Biological and Agricultural Engineering), Schlegel, Alan J. (Southwest Research Extension Center), and Vandeveer, Monte L. (Southwest Area Office), US Department of Agriculture, $3,162, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

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

Aguilar, Jonathan P., Kansas Corn Commission, $15,000, "Towards Better Understanding of Irrigation Management in Water technology Farms."

Aguilar, Jonathan P., Kansas Water Office, $10,000, "Design and Monitoring of Water Technology Farms."

Aguilar, Jonathan P., Derby, Melanie M. (Mechanical and Nuclear Engineering), Hansen, Ryan R. (Chemical Engineering), Hendricks, Nathan P. (Agricultural Economics), Hock, Gaea (Communications and Agricultural Education), Hutchinson, Stacy L. (Biological and Agricultural Engineering), Parameswaran, Prathap (Civil Engineering), and Sanderson, Matthew R. (Sociology, Anthropology, and Social Work), National Science Foundation, $389,788, "NRT-INFEWS: Preparing Future Leaders: Rural Resource Resiliency (R3)."

Aguilar, Jonathan P., Aiken, Robert M. (Northwest Research Extension Center), Devlin, Daniel L. (Ks Ctr for Ag 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), Lam, 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 Vandeveer, Monte L., US
Department of Agriculture, $63,245, "Water Management to Sustain the Economic Activity from the Ogallala Aquifer on the Southern High Plains - KSU."

Vandeveer, Monte L., Holman, Johnathon D. (Southwest Research Extension Center), Jaeger, John R. (Agricultural Research Center-Hays), Johnson, Sandra K. (Northwest Area Office), Kumar, Vipan (Agricultural Research Center-Hays), and Obour, Augustine K. (Agricultural Research Center-Hays), US Department of Agriculture, $19,982, "Cover Crop Management Options to Improve Weed Control, Crop Yield and Soil Health."

Vandeveer, Monte L., Llewelyn, Richard V. (Agricultural Economics), O'Brien, Daniel M. (Northwest Area Office), and Reid, Roberta M. (Agricultural Economics), US Department of Agriculture, $24,269, "Utilizing RMA Insurance Products to Enhance Farm-level Risk Management Strategies for Kansas Producers."

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

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

**K-STATE OLATHE CAMPUS**

K-STATE OLATHE INNOVATION CAMPUS
Loyacono, Laura L., Higgins, Meaghan C. (Vice President for Student Life and Dean of Students), and Lehning, Emily M. (New Student Services), Kauffman Foundation, "Kansas State College Advising Corps."

**K-STATE POLYTECHNIC CAMPUS**

K-STATE POLYTECHNIC CAMPUS
Barnhart, Richard K., Kansas Department of Transportation, $720,000, "Kansas Airport Improvement Program: Phase I (West Apron Project)."

Barnhart, Richard K., Powers & Zahr Consortium Management Co LLC, $27,000, "B-52 Commercial Engine Replacement Program (CERP) Integration Study - Phase 1."

**SALINARESEARCH AND ENGAGEMENT**


Carraway, Kurt J., Black & Veatch Corporation, $10,048, "Aerial Data Collection."

Carraway, Kurt J., Innovative Seed Solutions, LLC, $3,114, "Innovative Seed Solutions Task Order."

Carraway, Kurt J., Kansas Department of Transportation, $4,715, "Iris DAA Flight - IPP TO 2.4."

Carraway, Kurt J., Kansas Department of Transportation, $4,099, "KDOT Administrative Training - Task Order 2.2."


Carraway, Kurt J., Kansas Department of Transportation, $294, "KDOT IPP C2 Analysis Task Order #3."

Carraway, Kurt J., Kansas Department of Transportation, $3,717, "KDOT IPP TO 2.6."

Carraway, Kurt J., Kansas Department of Transportation, $1,539, "KDOT IPP TO2.5."

Carraway, Kurt J., Kansas Department of Transportation, $6,351, "Vertical Inspection - TO2.1."


Carraway, Kurt J., US Department of Transportation, $2,546, "Task Order Number 1 - UAS COE IDIQ."

Lawrence, Johnselvakumar, Kemin Industries, $4,400, "Testing and Evaluation Services Agreement."


SALINASCHOOL OF INTEGRATED STUDIES
Stephens, Gregory F., National Issues Forums Institute, $1,000, "TALK Salina - Coming to America: Who Should We Welcome?: What Should We Do?."

OFFICE OF THE PRESIDENT

BEACH ART MUSEUM
Duke, Linda A., Albin, Nathan (Mathematics), Alvarez Santos, Eduardo (Agronomy), Bello, Nora M. (Statistics), Flippo, Daniel (Biological and Agricultural Engineering), Fritz, Allan K. (Agronomy), Hettiarachchi, Ganga M. (Agronomy), Kulesza, Stacey E. (Civil Engineering), Poland, Jesse A. (Plant Pathology), SV, Krishna Jagadish (Agronomy), and Welch, Stephen M. (Agronomy), National Science Foundation, $60,000, "RII Track-2 FEC: Building Field-based Ecophysiological Genome-to-Phenome Prediction."
OFFICE OF THE PRESIDENT
Myers, Richard B., State of Kansas, $5,000,000, "National Bio and Agro-Defense Facility."

VICE PRESIDENT FOR COMMUNICATIONS AND MARKETING
Nelson, Robert F., Country Stampede LLC, $22,500, "Video Production Services."

OFFICE OF THE PROVOST

DEAN OF GLOBAL CAMPUS
Wolfe, Jeffrey J., Kansas Department of Commerce, $40,000, "Executive Education by Kansas State University."

DEAN OF GRADUATE SCHOOL

Shanklin, Carol W., National Science Foundation, $362,333, "NSF Graduate Research Fellowship Program (GRFP) - 2017-2022."

Shanklin, Carol W., Roberts, Kevin R. (Hospitality Management), and Sauer, Kevin L. (Food, Nutrition, Dietetics and Health), US Department of Agriculture, $64,637, "Center for Food Safety in Child Nutrition Programs."

Shanklin, Carol W., Montelone, Beth A. (Research Vice President), and Mosier, Derek A. (Diagnostic Medicine/Pathobiology), US Department of Agriculture, $165,460, "NBAF Scientist Training Program."

INTERNATIONAL PROGRAMS

Wood, Mary, CAPES, $165,837, "Six-Week English Language Certificate Program for High School English Teachers from Brazil (PDPI)."

Wood, Mary, Jilin University, $39,240, "Teacher Professional Development Workshop."

Wood, Mary, US Department of State, $135,125, "Fulbright English for Graduate Studies."

OFFICE OF THE PROVOST
King, Brenée, and Montelone, Beth A. (Office of Research Development), National Science Foundation, $2,059, "Recruitment of Underrepresented Minorities into STEM with a Summer Research Immersion Experience."

Taber, Charles, Kansas State University Foundation, $24,000, "Spainhour Faculty Chair for KAWSE."

Taber, Charles, Choma, Kimathi I. (Dean of Arts and Sciences), Grauer, Bette (Dean of Engineering), Montelone, Beth A. (Office of Research Development), and Wiley, Zelia Z. (Dean of Agriculture and Director of AES), National Science Foundation, $157,526, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

SCHOOL OF LEADERSHIP STUDIES
Finnegan, James M., and Tolar, Mary H., City of Manhattan, KS, $15,000, "City of Manhattan Leadership Academy."

Gott, Trisha C., and Kliewer, Brandon W., US Department of State, $120,000, "Mandela Washington Fellowship for Young African Leaders - 2019."
Kliewer, Brandon W., Besenyi, Gina M. (Kinesiology), and Heinrich, Katie M. (Kinesiology), Engagement Scholarship Consortium, $2,080, "Manhattan, Kansas Bike-Ped Systems Plan Public Engagement Project."

Kliewer, Brandon W., and Gott, Trisha C., US Department of State, $80,000, "Mandela Washington Fellowship for Young African Leaders - 2019."

Steffensmeier, Timothy R., and Tolar, Mary H., Kansas Leadership Center, $122,612, "Kansas Leadership Center Research Initiative."

Tolar, Mary H., and Finnegan, James M., City of Manhattan, KS, $5,000, "City of Manhattan Leadership Academy."

Tolar, Mary H., and Steffensmeier, Timothy R., Kansas Leadership Center, $13,624, "Kansas Leadership Center Research Initiative."

VICE PROVOST FOR UNDERGRADUATE STUDIES
Cortez, Anita R., Buckwalter, John (Dean of Human Ecology), and Rosenkranz, Sara (Food, Nutrition, Dietetics and Health), US Department of Health and Human Services, $26,668, "Kansas Bridges to the Future."

VICE PRESIDENT FOR ADMINISTRATION AND FINANCE
Barrett, Sarah F., Kansas Health Foundation, $24,897, "The Other Hidden Faces of Hunger on College Campuses."

VICE PRESIDENT FOR RESEARCH
BIOSECURITY RESEARCH INSTITUTE
Higgs, Stephen, Huang, Yan-Jang S. (Diagnostic Medicine/Pathobiology), and Vanlandingham, Dana L. (Diagnostic Medicine/Pathobiology), BioNexus KC, $2,500, "Assess the Efficacy of Therapeutic Antibodies in a Swine-based Model."

NATIONAL AGRICULTURAL BIOSECURITY CENTER
Vanier, Martha A., US Department of Homeland Security, $400,000, "NABC Project under DHS BOA."

OFFICE OF RESEARCH DEVELOPMENT
Marino, Mary Lou, and Montelone, Beth A., National Aeronautics and Space Administration, $42,985, "National Space Grant College and Fellowship Program (SPACE Grant) Training Grant 2015-2018."

Montelone, Beth A., and Marino, Mary Lou, National Aeronautics and Space Administration, $42,985, "National Space Grant College and Fellowship Program (SPACE Grant) Training Grant 2015-2018."

Montelone, Beth A., Choma, Kimathi I. (Dean of Arts and Sciences), Grauer, Bette (Dean of Engineering), Taber, Charles (Office of the Provost), and Wiley, Zelia Z. (Dean of Agriculture and Director of AES), National Science Foundation, $90,015, "Louis Stokes STEM Pathways Implementation-Only Alliance: Kansas Pathways to STEM."

Montelone, Beth A., and King, Brenee (Office of the Provost), National Science Foundation, $2,059, "Recruitment of Underrepresented Minorities into STEM with a Summer Research Immersion Experience."

RESEARCH VICE PRESIDENT
Dorhout, Peter K., State of Kansas, $970,000, "Global Foods System."
Dorhout, Peter K., and Jackson, Chad A. (Dean of Business Administration), US Department of Commerce, $655,697, "Global Food Systems Economic Prosperity Accelerator."

Montelone, Beth A., Mosier, Derek A. (Diagnostic Medicine/Pathobiology), and Shanklin, Carol W. (Dean of Graduate School), US Department of Agriculture, $165,460, "NBAF Scientist Training Program."

VICE PRESIDENT BIOTECH LABORATORY
Marlow, Denver D., US Department of Agriculture, $6,001, "Acquisition of Goods and Services."

VICE PRESIDENT ELECTRONICS DESIGN LABORATORY
Sobering, Timothy J., and McNeil, Walter J. (Mechanical and Nuclear Engineering), US Department of Energy, $45,000, "Electronics Additive Manufacturing PDRD."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS

DIVERSITY & MULTICULTURAL

EDUCATIONAL AND PERSONAL DEVELOPMENT
Bannister, Stephanie, Kansas State University Foundation, $14,333, "First Generation Office - Koch Scholars Fund."

Bannister, Stephanie, Kansas State University Foundation, $125,485, "First Generation Office - Suder Foundation."

Booker, Monshonda, Kansas State Department of Education, $2,393, "Summer Food Service Program-UB-Salina-2018."

Booker, Monshonda, National Science Foundation, $3,500, "Teaching Through Technology (T3) Alliance."

Booker, Monshonda, US Department of Agriculture, $2,051, "Summer Food Service ProgramUB-Salina-2017."


Greene, Kathleen V., US Department of Education, $244,504, "Student Support Services K-State-Salina."


KSU CHILD DEVELOPMENT CENTER, INC.
Mitchell, Rose M., City of Manhattan, KS, $44,132, "Social Services Advisory Board - 2019."

Mitchell, Rose M., US Department of Agriculture, $500, "Spring 2017 Kansas Local Food and Gardening Sub-Grant."

NEW STUDENT SERVICES
Lehning, Emily M., Kansas State University Foundation, $21,000, "Blue Key Strengths Quest Initiative."

Lehning, Emily M., Higgins, Meaghan C. (Vice President for Student Life and Dean of Students), and Loyacono, Laura L. (K-State Olathe Innovation Campus), Kauffman Foundation, $17,500, "Kansas State College Advising Corps."

Lehning, Emily M., and Higgins, Meaghan C. (Vice President for Student Life and Dean of Students), National College Advising Corps, $38,681, "KSU College Advising Corps in Kansas City."

OFFICE OF STUDENT LIFE
Kientz, Clara H., US Department of Health and Human Services, $7,000, "Heartland Sexual Assault Policies & Prevention on Campuses Project."

Kientz, Clara H., US Department of Justice, $280,791, "FY19 VOCA Application for Kansas State University."

STUDENT FINANCIAL ASSISTANCE
Moeder, Lawrence E., Give Something Back Foundation, $1,848, "Give Something Back Foundation Scholarship Program."

STUDENT HEALTH
DeDonder, Jean M., and Parker, James S., City of Manhattan, KS, $12,000, "Special Alcohol Funding - 2019."

Parker, James S., and DeDonder, Jean M., City of Manhattan, KS, $3,000, "Special Alcohol Funding - 2019."

VICE PRESIDENT FOR STUDENT LIFE AND DEAN OF STUDENTS
Bosco, Pat J., Kauffman Scholars, Inc., $8,990, "IEP Kauffman Scholars Program - ISP."

DeGroat, Arthur S., Kansas State University Foundation, $19,300, "David Woods Kemper Veterans Foundation."

DeGroat, Arthur S., Kansas State University Foundation, $15,708, "Kansas Masons Partnership in Military and Veterans Affairs."

DeGroat, Arthur S., Kansas State University Foundation, $49,764, "Military Affairs Director Funds."

Higgins, Meaghan C., Lehning, Emily M. (New Student Services), and Loyacono, Laura L. (K-State Olathe Innovation Campus), Kauffman Foundation, $157,500, "Kansas State College Advising Corps."

Higgins, Meaghan C., and Lehning, Emily M. (New Student Services), National College Advising Corps, $348,125, "KSU College Advising Corps in Kansas City."

Weixelman, Mindy R., Kansas State University Foundation, $20,525, "Phillips 66 SHIELD Scholars Program Administration Fund."