Research and Sponsored Program Activity
Year Ended June 30, 2017

Table of Contents

♦ Summary of Expenditures
  Chart - Total Sponsored Expenditures- 5 Year Trend ......................................................... 1
  Table - Sponsored Expenditures Summary ................................................................. 2

♦ Summary of Awards
  Chart – Awards Total 5 Year Trend .................................................................................. 3
  Chart - Awards by College ............................................................................................. 4
  Chart - Awards by College FY16 vs FY17 ....................................................................... 5
  Table - Awards by College FY16 vs FY17 ..................................................................... 6
  Table - Awards Summary by College ............................................................................. 7
  Table – Awards Total by Org Unit 5 Year Trend ................................................................ 8
  Report - Awards Summary by College & Department ...................................................... 9
  Pie Chart- Awards Summary by Program Type ............................................................ 14
  Pie Chart - Awards by Fund Source .............................................................................. 15
  Chart – Awards by Fund Source FY16 vs FY17 ............................................................. 16
  Pie Chart - Awards by Federal Sponsor ......................................................................... 17
  Report - Awards by Sponsor - Detail .............................................................................. 18

♦ Summary of Proposal Submissions
  Chart – Proposal Submissions: 6 Year Comparison ...................................................... 25
  Chart – Proposal Submissions by College FY16 vs FY17 ............................................ 26

♦ Appendix
  Report – Awards by College, Department and Investigator Detail .................................. 27
Research and Sponsored Program Activity

Year Ended June 30, 2017

Office of Research
864.656.2424
Summary of Expenditures
<table>
<thead>
<tr>
<th>College/Business Unit</th>
<th>Total Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Forestry, and Life Sciences</td>
<td>$ 11,066,587</td>
</tr>
<tr>
<td>College of Architecture, Arts and Humanities</td>
<td>$ 1,324,634</td>
</tr>
<tr>
<td>College of Business</td>
<td>$ 867,778</td>
</tr>
<tr>
<td>College of Engineering, Computing &amp; Applied Sciences</td>
<td>$ 42,945,440</td>
</tr>
<tr>
<td>College of Behavioral, Social &amp; Health Sciences</td>
<td>$ 4,413,359</td>
</tr>
<tr>
<td>College of Education</td>
<td>$ 2,580,041</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$ 5,749,370</td>
</tr>
<tr>
<td>College of Science</td>
<td>$ 14,777,230</td>
</tr>
<tr>
<td>Clemson Computing &amp; Information Technology</td>
<td>$ 426,836</td>
</tr>
<tr>
<td>VP for Research and Interdisciplinary Institutes</td>
<td>$ 3,930,146</td>
</tr>
<tr>
<td>All Other</td>
<td>$ 1,465,867</td>
</tr>
<tr>
<td><strong>Sponsored Research Expenditures</strong></td>
<td>$ 89,547,288</td>
</tr>
</tbody>
</table>
*Awards history has been revised to remove CCIT Medicaid contracts
CLEMSON UNIVERSITY
Research Awards Unit Comparisons
FY16 vs FY17

<table>
<thead>
<tr>
<th>Unit</th>
<th>FY 2016</th>
<th>FY 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Forestry &amp; Life Sciences</td>
<td>$8,619,438</td>
<td>$10,898,288</td>
</tr>
<tr>
<td>College of Arch, Arts &amp; Humanities</td>
<td>$1,400,972</td>
<td>$1,519,688</td>
</tr>
<tr>
<td>College of Behavioral, Social &amp; Health Sciences</td>
<td>$5,065,880</td>
<td>$4,564,531</td>
</tr>
<tr>
<td>College of Business</td>
<td>$783,916</td>
<td>$1,179,733</td>
</tr>
<tr>
<td>College of Education</td>
<td>$2,945,717</td>
<td>$2,774,422</td>
</tr>
<tr>
<td>College of Engineering Computing &amp; Applied Sciences</td>
<td>$45,535,064</td>
<td>$54,000,082</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$12,965,529</td>
<td>$7,908,591</td>
</tr>
<tr>
<td>College of Science</td>
<td>$15,605,625</td>
<td>$19,899,415</td>
</tr>
<tr>
<td>Clemson Computing &amp; Information Technology</td>
<td>$819,396</td>
<td>$477,594</td>
</tr>
<tr>
<td>VP for Research &amp; Interdisc Institutes</td>
<td>$5,139,315</td>
<td>$5,030,743</td>
</tr>
<tr>
<td>All Other</td>
<td>$1,980,188</td>
<td>$1,235,065</td>
</tr>
</tbody>
</table>
## CLEMSON UNIVERSITY

Research Awards by College or Unit
FY2016 vs FY2017

<table>
<thead>
<tr>
<th>College</th>
<th>FY2016 Awards ($)</th>
<th>FY2017 Awards ($)</th>
<th>Percentage of FY2016 Total Awards</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Forestry &amp; Life Sciences</td>
<td>$8,619,438</td>
<td>$10,898,288</td>
<td>126%</td>
</tr>
<tr>
<td>College of Architecture, Arts &amp; Humanities</td>
<td>$1,400,972</td>
<td>$1,519,688</td>
<td>108%</td>
</tr>
<tr>
<td>College of Behavioral, Social &amp; Health Sciences</td>
<td>$5,065,880</td>
<td>$4,564,531</td>
<td>90%</td>
</tr>
<tr>
<td>College of Business</td>
<td>$783,916</td>
<td>$1,179,733</td>
<td>150%</td>
</tr>
<tr>
<td>College of Education</td>
<td>$2,945,717</td>
<td>$2,774,422</td>
<td>94%</td>
</tr>
<tr>
<td>College of Engineering, Computing &amp; Applied Sciences</td>
<td>$45,535,064</td>
<td>$54,000,082</td>
<td>119%</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$12,965,629</td>
<td>$7,908,591</td>
<td>61%</td>
</tr>
<tr>
<td>College of Science</td>
<td>$15,605,625</td>
<td>$19,899,415</td>
<td>128%</td>
</tr>
<tr>
<td>Clemson Computing &amp; Information Technology</td>
<td>$819,396</td>
<td>$477,594</td>
<td>58%</td>
</tr>
<tr>
<td>VP for Research &amp; Interdisciplinary Institutes</td>
<td>$5,139,315</td>
<td>$5,030,743</td>
<td>98%</td>
</tr>
<tr>
<td>All Other</td>
<td>$1,980,188</td>
<td>$1,235,065</td>
<td>62%</td>
</tr>
</tbody>
</table>

**TOTAL**                                      | $100,861,140      | $109,488,152      | 109%                              |
<table>
<thead>
<tr>
<th>COLLEGE/DEPARTMENT</th>
<th>DIRECT</th>
<th>INDIRECT</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Forestry and Life Sciences</td>
<td>$9,534,092</td>
<td>$1,364,196</td>
<td>$10,898,288</td>
</tr>
<tr>
<td>College of Architecture, Arts and Humanities</td>
<td>$1,302,312</td>
<td>$217,375</td>
<td>$1,519,688</td>
</tr>
<tr>
<td>College of Behavioral, Social &amp; Health Sciences</td>
<td>$3,668,067</td>
<td>$896,463</td>
<td>$4,564,531</td>
</tr>
<tr>
<td>College of Business</td>
<td>$1,009,200</td>
<td>$170,533</td>
<td>$1,179,733</td>
</tr>
<tr>
<td>College of Education</td>
<td>$2,631,442</td>
<td>$142,981</td>
<td>$2,774,422</td>
</tr>
<tr>
<td>College of Engineering, Computing &amp; Applied Sciences</td>
<td>$43,286,328</td>
<td>$10,713,755</td>
<td>$54,000,082</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$6,986,545</td>
<td>$922,046</td>
<td>$7,908,591</td>
</tr>
<tr>
<td>College of Science</td>
<td>$15,651,138</td>
<td>$4,248,277</td>
<td>$19,899,415</td>
</tr>
<tr>
<td>Clemson Computing and Information Technology</td>
<td>$351,560</td>
<td>$126,034</td>
<td>$477,594</td>
</tr>
<tr>
<td>VP for Research and Interdisciplinary Institutes</td>
<td>$3,592,129</td>
<td>$1,438,614</td>
<td>$5,030,743</td>
</tr>
<tr>
<td>All Other</td>
<td>$1,017,704</td>
<td>$217,360</td>
<td>$1,235,065</td>
</tr>
</tbody>
</table>

**Grand Total:** $89,030,518 $20,457,634 $109,488,152
Clemson University  
Research Awards by Organizational Unit  
FY13-FY17

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture, Forestry &amp; Life Sciences</td>
<td>$7,284,564</td>
<td>$6,659,619</td>
<td>$14,149,829</td>
<td>$8,619,438</td>
<td>$10,898,288</td>
</tr>
<tr>
<td>College of Architecture, Arts &amp; Humanities</td>
<td>$224,473</td>
<td>$590,154</td>
<td>$656,030</td>
<td>$1,400,972</td>
<td>$1,519,688</td>
</tr>
<tr>
<td>College of Behavioral, Social &amp; Health Sciences</td>
<td>$2,737,876</td>
<td>$3,385,989</td>
<td>$4,776,199</td>
<td>$5,065,880</td>
<td>$4,564,531</td>
</tr>
<tr>
<td>College of Business</td>
<td>$2,023,722</td>
<td>$1,114,979</td>
<td>$1,312,998</td>
<td>$783,916</td>
<td>$1,179,733</td>
</tr>
<tr>
<td>College of Education</td>
<td>$2,629,505</td>
<td>$4,089,157</td>
<td>$3,203,419</td>
<td>$2,945,717</td>
<td>$2,774,422</td>
</tr>
<tr>
<td>College of Engineering, Computing &amp; Applied Sciences</td>
<td>$34,201,429</td>
<td>$37,723,081</td>
<td>$43,231,494</td>
<td>$45,535,064</td>
<td>$54,000,082</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$14,827,292</td>
<td>$12,284,142</td>
<td>$9,588,294</td>
<td>$12,965,629</td>
<td>$7,908,591</td>
</tr>
<tr>
<td>College of Science</td>
<td>$10,344,423</td>
<td>$7,780,394</td>
<td>$9,938,990</td>
<td>$15,605,625</td>
<td>$19,899,415</td>
</tr>
<tr>
<td>Clemson Computing &amp; Information Technology</td>
<td>$1,617,466</td>
<td>$5,675,854</td>
<td>$668,873</td>
<td>$819,396</td>
<td>$477,594</td>
</tr>
<tr>
<td>VP for Research &amp; Interdisciplinary Institutes</td>
<td>$1,790,060</td>
<td>$268,882</td>
<td>$573,565</td>
<td>$5,139,315</td>
<td>$5,030,743</td>
</tr>
<tr>
<td>All Other</td>
<td>$333,188</td>
<td>$156,039</td>
<td>$1,213,903</td>
<td>$1,980,188</td>
<td>$1,235,065</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$78,013,998</strong></td>
<td><strong>$79,728,290</strong></td>
<td><strong>$89,313,594</strong></td>
<td><strong>$100,861,140</strong></td>
<td><strong>$109,488,152</strong></td>
</tr>
</tbody>
</table>
### COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES

<table>
<thead>
<tr>
<th>Department</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Sciences</td>
<td>$1,150,843.95</td>
<td>$116,426.60</td>
<td>$1,267,270.55</td>
</tr>
<tr>
<td>Animal &amp; Veterinary Sciences</td>
<td>$312,938.65</td>
<td>$36,112.00</td>
<td>$349,050.65</td>
</tr>
<tr>
<td>Environmental Toxicology</td>
<td>$10,323.20</td>
<td>$2,418.60</td>
<td>$12,741.80</td>
</tr>
<tr>
<td>Food Science and Human Nutrition</td>
<td>-$90,595.80</td>
<td>-$27,635.00</td>
<td>-$118,230.80</td>
</tr>
<tr>
<td>Forestry &amp; Environmental Conservation</td>
<td>$2,219,171.59</td>
<td>$333,964.54</td>
<td>$2,553,136.13</td>
</tr>
<tr>
<td>Plant &amp; Environmental Sciences</td>
<td>$5,931,410.90</td>
<td>$882,909.10</td>
<td>$6,814,320.00</td>
</tr>
<tr>
<td><strong>Total: College of Agriculture, Forestry &amp; Life Sciences</strong></td>
<td><strong>$9,534,092.49</strong></td>
<td><strong>$1,364,195.84</strong></td>
<td><strong>$10,898,288.33</strong></td>
</tr>
</tbody>
</table>

### COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES

<table>
<thead>
<tr>
<th>Department</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Science &amp; Management</td>
<td>$28,000.00</td>
<td>$1,900.00</td>
<td>$29,900.00</td>
</tr>
<tr>
<td>English</td>
<td>$88,088.06</td>
<td>$17,628.22</td>
<td>$105,716.28</td>
</tr>
<tr>
<td>History</td>
<td>$17,560.00</td>
<td>$0.00</td>
<td>$17,560.00</td>
</tr>
<tr>
<td>Landscape Architecture</td>
<td>$48,237.00</td>
<td>$8,298.00</td>
<td>$56,535.00</td>
</tr>
<tr>
<td>Languages</td>
<td>$274,241.20</td>
<td>$25,898.00</td>
<td>$300,139.20</td>
</tr>
<tr>
<td>Performing Arts</td>
<td>$8,000.00</td>
<td>$0.00</td>
<td>$8,000.00</td>
</tr>
<tr>
<td>Philosophy &amp; Religion</td>
<td>$18,142.26</td>
<td>$8,975.64</td>
<td>$27,117.90</td>
</tr>
<tr>
<td>Planning, Dev &amp; Preservation</td>
<td>$209,741.41</td>
<td>$42,027.59</td>
<td>$251,769.00</td>
</tr>
<tr>
<td>School of Architecture</td>
<td>$610,302.36</td>
<td>$112,647.82</td>
<td>$722,950.18</td>
</tr>
<tr>
<td><strong>Total: College of Architecture, Arts &amp; Humanities</strong></td>
<td><strong>$1,302,312.29</strong></td>
<td><strong>$217,375.27</strong></td>
<td><strong>$1,519,687.56</strong></td>
</tr>
</tbody>
</table>

### COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES

<table>
<thead>
<tr>
<th>Department</th>
<th>Direct</th>
<th>Indirect</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Ed/Pract &amp; Med Surv Pro</td>
<td>$210,742.50</td>
<td>$2,890.30</td>
<td>$213,632.80</td>
</tr>
<tr>
<td>CU Institute for Parks</td>
<td>$104,627.00</td>
<td>$5,203.00</td>
<td>$109,830.00</td>
</tr>
<tr>
<td>Dean-Beh, Social, &amp; Health Sci</td>
<td>$14,535.84</td>
<td>$3,779.16</td>
<td>$18,315.00</td>
</tr>
<tr>
<td>Department of Communication</td>
<td>$51,282.26</td>
<td>$8,975.64</td>
<td>$60,257.90</td>
</tr>
<tr>
<td>MPA Program</td>
<td>$833.40</td>
<td>$166.60</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Parks, Recreation, &amp; Tourism Manag</td>
<td>$788,324.01</td>
<td>$137,066.14</td>
<td>$925,390.15</td>
</tr>
<tr>
<td>Psychology</td>
<td>$969,707.57</td>
<td>$325,082.22</td>
<td>$1,294,789.79</td>
</tr>
<tr>
<td>Public Health Sciences</td>
<td>$940,607.50</td>
<td>$249,370.70</td>
<td>$1,189,978.20</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>$75,477.50</td>
<td>$412.90</td>
<td>$75,890.40</td>
</tr>
<tr>
<td>Disciplinary Area</td>
<td>Budget 1</td>
<td>Budget 2</td>
<td>Budget 3</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Sociology and Anthropology</td>
<td>$278,974.82</td>
<td>$110,494.28</td>
<td>$389,469.10</td>
</tr>
<tr>
<td>Strom Thurmond Institute</td>
<td>$44,065.00</td>
<td>$2,979.00</td>
<td>$47,044.00</td>
</tr>
<tr>
<td>Youth Development Programs</td>
<td>$98,584.86</td>
<td>$14,140.84</td>
<td>$112,725.70</td>
</tr>
<tr>
<td>Youth, Family &amp; Comm Studies</td>
<td>$90,005.04</td>
<td>$35,902.56</td>
<td>$125,907.60</td>
</tr>
<tr>
<td><strong>TOTAL: COLLEGE OF BEHAVIORAL, SOCIAL &amp; HEALTH SCIENCES</strong></td>
<td><strong>$3,668,067.30</strong></td>
<td><strong>$896,463.34</strong></td>
<td><strong>$4,564,530.64</strong></td>
</tr>
<tr>
<td><strong>COLLEGE OF BUSINESS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>$15,000.00</td>
<td>$0.00</td>
<td>$15,000.00</td>
</tr>
<tr>
<td>Management</td>
<td>$475,487.04</td>
<td>$110,018.76</td>
<td>$585,505.80</td>
</tr>
<tr>
<td>Small Business Development Center</td>
<td>$538,713.00</td>
<td>$60,514.00</td>
<td>$599,227.00</td>
</tr>
<tr>
<td><strong>TOTAL: COLLEGE OF BUSINESS</strong></td>
<td><strong>$1,009,200.04</strong></td>
<td><strong>$170,532.76</strong></td>
<td><strong>$1,179,732.80</strong></td>
</tr>
<tr>
<td><strong>COLLEGE OF EDUCATION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ed &amp; Org Leadership Dev</td>
<td>$325,369.96</td>
<td>$23,997.88</td>
<td>$349,358.84</td>
</tr>
<tr>
<td>Education &amp; Human Dev</td>
<td>$1,325,471.69</td>
<td>$64,510.28</td>
<td>$1,389,981.96</td>
</tr>
<tr>
<td>Teaching &amp; Learning</td>
<td>$980,609.07</td>
<td>$54,472.45</td>
<td>$1,035,081.52</td>
</tr>
<tr>
<td><strong>TOTAL: COLLEGE OF EDUCATION</strong></td>
<td><strong>$2,631,441.71</strong></td>
<td><strong>$142,980.61</strong></td>
<td><strong>$2,774,422.33</strong></td>
</tr>
<tr>
<td><strong>COLLEGE OF ENGINEERING, COMPUTING &amp; APPLIED SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioengineering</td>
<td>$3,411,488.80</td>
<td>$1,193,024.40</td>
<td>$4,604,513.20</td>
</tr>
<tr>
<td>Campbell Grad Engr Program</td>
<td>$3,663,167.63</td>
<td>$718,944.65</td>
<td>$4,382,112.28</td>
</tr>
<tr>
<td>Chemical &amp; Biomolecular Engineering</td>
<td>$2,058,924.95</td>
<td>$713,363.06</td>
<td>$2,772,288.01</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>$5,922,107.76</td>
<td>$1,453,773.51</td>
<td>$7,375,881.27</td>
</tr>
<tr>
<td>Dean of Engineering &amp; Science</td>
<td>$830,512.20</td>
<td>$408,521.75</td>
<td>$1,239,033.95</td>
</tr>
<tr>
<td>Electrical &amp; Computer Engineering</td>
<td>$7,083,236.25</td>
<td>$1,742,056.22</td>
<td>$8,825,292.47</td>
</tr>
<tr>
<td>Engineering &amp; Science Education</td>
<td>$235,920.86</td>
<td>$92,927.04</td>
<td>$328,847.90</td>
</tr>
<tr>
<td>Environmental Engineering &amp; Earth Science</td>
<td>$3,526,010.54</td>
<td>$1,073,001.81</td>
<td>$4,599,012.35</td>
</tr>
<tr>
<td>General Engineering</td>
<td>$25,032.50</td>
<td>$0.00</td>
<td>$25,032.50</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>$1,425,186.92</td>
<td>$389,104.12</td>
<td>$1,814,291.04</td>
</tr>
<tr>
<td>Materials Science &amp; Engineering</td>
<td>$5,508,106.46</td>
<td>$1,134,969.09</td>
<td>$6,643,075.55</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>$3,217,114.05</td>
<td>$526,173.27</td>
<td>$3,743,287.32</td>
</tr>
<tr>
<td>School of Computing</td>
<td>$6,359,518.86</td>
<td>$1,267,895.66</td>
<td>$7,627,414.52</td>
</tr>
<tr>
<td><strong>TOTAL: COLLEGE OF ENGINEERING, COMPUTING &amp; APPLIED SCIENCES</strong></td>
<td><strong>$43,286,327.78</strong></td>
<td><strong>$10,713,754.58</strong></td>
<td><strong>$54,000,082.36</strong></td>
</tr>
<tr>
<td><strong>COLLEGE OF SCIENCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>$2,338,131.08</td>
<td>$877,175.92</td>
<td>$3,215,307.00</td>
</tr>
<tr>
<td>Department</td>
<td>Budget 2022</td>
<td>Budget 2023</td>
<td>Change 2023</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Chemistry</td>
<td>$5,296,445.04</td>
<td>$1,237,479.01</td>
<td>$6,533,924.05</td>
</tr>
<tr>
<td>Clemson Light Imaging Facility</td>
<td>$782,212.65</td>
<td>$327,792.65</td>
<td>$111,005.30</td>
</tr>
<tr>
<td>Genetics and Biochemistry</td>
<td>$3,383,912.36</td>
<td>$979,698.14</td>
<td>$4,363,610.50</td>
</tr>
<tr>
<td>Mathematical Sciences</td>
<td>$1,801,665.47</td>
<td>$223,839.89</td>
<td>$2,025,525.35</td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>$2,752,771.73</td>
<td>$897,271.47</td>
<td>$3,650,043.20</td>
</tr>
<tr>
<td><strong>TOTAL:COLLEGE OF SCIENCE</strong></td>
<td>$18,651,138.32</td>
<td>$4,248,277.08</td>
<td>$19,899,415.40</td>
</tr>
<tr>
<td><strong>CLEMSON COMPUTING AND INFORMATION TECHNOLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCIT Research Support</td>
<td>$129,124.48</td>
<td>$46,730.27</td>
<td>$175,854.75</td>
</tr>
<tr>
<td>Chief Technology Office</td>
<td>$92,451.50</td>
<td>$31,860.50</td>
<td>$124,312.00</td>
</tr>
<tr>
<td>CIO Office</td>
<td>$112,708.00</td>
<td>$39,729.00</td>
<td>$152,437.00</td>
</tr>
<tr>
<td>Information Security &amp; Privacy</td>
<td>$17,275.55</td>
<td>$7,714.70</td>
<td>$24,990.25</td>
</tr>
<tr>
<td><strong>Total:Clemson Computing and Information Technology</strong></td>
<td>$351,559.53</td>
<td>$126,034.47</td>
<td>$477,594.00</td>
</tr>
<tr>
<td><strong>ECONOMIC DEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Development</td>
<td>$75,000.00</td>
<td>$0.00</td>
<td>$75,000.00</td>
</tr>
<tr>
<td><strong>TOTAL:ECONOMIC DEVELOPMENT</strong></td>
<td>$75,000.00</td>
<td>$0.00</td>
<td>$75,000.00</td>
</tr>
<tr>
<td><strong>OTHER NON-COLLEGE RELATED DEPARTMENTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment</td>
<td>$13,942.05</td>
<td>$5,975.10</td>
<td>$19,917.15</td>
</tr>
<tr>
<td>Conservation Center</td>
<td>$24,984.00</td>
<td>$0.00</td>
<td>$24,984.00</td>
</tr>
<tr>
<td>CU Restoration Institute (CURI)</td>
<td>$152,847.90</td>
<td>$66,152.10</td>
<td>$219,000.00</td>
</tr>
<tr>
<td>Honors Program</td>
<td>$107,806.00</td>
<td>$0.00</td>
<td>$107,806.00</td>
</tr>
<tr>
<td>Inst Biological Interfaces Eng</td>
<td>$151,351.00</td>
<td>$10,108.00</td>
<td>$161,459.00</td>
</tr>
<tr>
<td>Office of Global Engagement</td>
<td>$45,678.60</td>
<td>$15,531.00</td>
<td>$61,209.60</td>
</tr>
<tr>
<td>Office Of Undergraduate Studies</td>
<td>$800.00</td>
<td>$0.00</td>
<td>$800.00</td>
</tr>
<tr>
<td>Provost &amp; Vice President for Academic Affairs</td>
<td>$36,284.52</td>
<td>$17,951.28</td>
<td>$54,235.80</td>
</tr>
<tr>
<td>University Libraries</td>
<td>$55,282.00</td>
<td>$9,674.00</td>
<td>$64,956.00</td>
</tr>
<tr>
<td>Watt Family Innovation Center</td>
<td>$333,728.00</td>
<td>$91,969.00</td>
<td>$425,697.00</td>
</tr>
<tr>
<td><strong>TOTAL:OTHER NON-COLLEGE RELATED DEPARTMENTS</strong></td>
<td>$942,704.07</td>
<td>$217,360.48</td>
<td>$1,160,064.55</td>
</tr>
<tr>
<td><strong>PUBLIC SERVICE ACTIVITIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4H Youth Development</td>
<td>$306,118.00</td>
<td>$43,233.00</td>
<td>$349,351.00</td>
</tr>
<tr>
<td>Abbeville</td>
<td>$27,000.00</td>
<td>$0.00</td>
<td>$27,000.00</td>
</tr>
<tr>
<td>Advanced Plant Technology</td>
<td>$320,110.50</td>
<td>$104,636.20</td>
<td>$424,746.70</td>
</tr>
<tr>
<td>Agricultural Education</td>
<td>$46,648.00</td>
<td>$0.00</td>
<td>$46,648.00</td>
</tr>
<tr>
<td>Agricultural Research</td>
<td>$4,362.00</td>
<td>$0.00</td>
<td>$4,362.00</td>
</tr>
<tr>
<td>Anderson</td>
<td>$1,702.00</td>
<td>$0.00</td>
<td>$1,702.00</td>
</tr>
<tr>
<td>Location</td>
<td>Cost</td>
<td>Revenue</td>
<td>Profit</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Bamberg</td>
<td>$1,500.00</td>
<td>$0.00</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Belle W. Barnard Forest Science Institute</td>
<td>$440,148.05</td>
<td>$102,735.00</td>
<td>$342,413.05</td>
</tr>
<tr>
<td>Charleston</td>
<td>$1,000.00</td>
<td>$0.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Chester</td>
<td>$48,000.00</td>
<td>$0.00</td>
<td>$48,000.00</td>
</tr>
<tr>
<td>Coastal Research &amp; Education Center</td>
<td>$163,796.25</td>
<td>$30,857.75</td>
<td>$194,654.00</td>
</tr>
<tr>
<td>Colleton</td>
<td>$500.00</td>
<td>$0.00</td>
<td>$500.00</td>
</tr>
<tr>
<td>Cooperative Extension Services</td>
<td>$819,849.00</td>
<td>$350.00</td>
<td>$820,199.00</td>
</tr>
<tr>
<td>CU Genomics &amp; Comp Bio Lab</td>
<td>$621,241.20</td>
<td>$16,428.90</td>
<td>$637,670.10</td>
</tr>
<tr>
<td>CU Regulatory Services</td>
<td>$228,180.00</td>
<td>$54,128.00</td>
<td>$282,308.00</td>
</tr>
<tr>
<td>Edgefield</td>
<td>$6,000.00</td>
<td>$0.00</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>Edisto Research &amp; Education Center</td>
<td>$450,130.30</td>
<td>$35,814.00</td>
<td>$485,944.30</td>
</tr>
<tr>
<td>Field Operations</td>
<td>$434,092.80</td>
<td>$412.90</td>
<td>$434,505.70</td>
</tr>
<tr>
<td>Greenville</td>
<td>$25,200.00</td>
<td>$2,800.00</td>
<td>$28,000.00</td>
</tr>
<tr>
<td>Hampton</td>
<td>$1,500.00</td>
<td>$0.00</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Lancaster</td>
<td>$6,950.00</td>
<td>$0.00</td>
<td>$6,950.00</td>
</tr>
<tr>
<td>Lexington</td>
<td>$28,792.00</td>
<td>$3,861.75</td>
<td>$32,653.75</td>
</tr>
<tr>
<td>Livestock &amp; Poultry Health</td>
<td>$483,613.00</td>
<td>$42,111.00</td>
<td>$525,724.00</td>
</tr>
<tr>
<td>LPI/SCMPID</td>
<td>$1,119,403.00</td>
<td>$380,597.00</td>
<td>$1,500,000.00</td>
</tr>
<tr>
<td>Marion</td>
<td>$1,875.00</td>
<td>$0.00</td>
<td>$1,875.00</td>
</tr>
<tr>
<td>Musser Fruit Research</td>
<td>$1,320.00</td>
<td>$0.00</td>
<td>$1,320.00</td>
</tr>
<tr>
<td>Orangeburg</td>
<td>$5,943.00</td>
<td>$1,751.50</td>
<td>$7,694.50</td>
</tr>
<tr>
<td>Pee Dee Research &amp; Education Center</td>
<td>$329,705.50</td>
<td>$22,301.00</td>
<td>$352,006.50</td>
</tr>
<tr>
<td>Pickens</td>
<td>$2,326.00</td>
<td>$0.00</td>
<td>$2,326.00</td>
</tr>
<tr>
<td>Plant Industry</td>
<td>$399,909.50</td>
<td>$37,046.50</td>
<td>$436,956.00</td>
</tr>
<tr>
<td>RPSP Labs</td>
<td>$43,846.00</td>
<td>$0.00</td>
<td>$43,846.00</td>
</tr>
<tr>
<td>Saluda</td>
<td>$10,754.00</td>
<td>$0.00</td>
<td>$10,754.00</td>
</tr>
<tr>
<td>Sandhill Research &amp; Education Center</td>
<td>$329,724.80</td>
<td>$31,216.25</td>
<td>$360,941.05</td>
</tr>
<tr>
<td>SC Botanical Garden</td>
<td>$11,463.50</td>
<td>$1,146.50</td>
<td>$12,610.00</td>
</tr>
<tr>
<td>SC Water Resource Center</td>
<td>$72,421.40</td>
<td>$2,979.00</td>
<td>$75,390.40</td>
</tr>
<tr>
<td>Spartanburg</td>
<td>$2,000.00</td>
<td>$0.00</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>Sumter</td>
<td>$10,000.00</td>
<td>$0.00</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>T. Ed Garrison Arena</td>
<td>$15,000.00</td>
<td>$0.00</td>
<td>$15,000.00</td>
</tr>
<tr>
<td>Wood Utilization &amp; Design Institute</td>
<td>$135,811.40</td>
<td>$6,621.00</td>
<td>$142,432.40</td>
</tr>
<tr>
<td>York</td>
<td>$28,607.70</td>
<td>$1,018.50</td>
<td>$29,626.20</td>
</tr>
</tbody>
</table>

**TOTAL: PUBLIC SERVICE ACTIVITIES**

<table>
<thead>
<tr>
<th>Cost</th>
<th>Revenue</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,986,545.10</td>
<td>$922,045.75</td>
<td>$7,908,590.85</td>
</tr>
<tr>
<td>Project Description</td>
<td>Amount 1</td>
<td>Amount 2</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Research/Electron Micro Facility</td>
<td>$40,480.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>VP for Research</td>
<td>$39,610.36</td>
<td>$9,909.82</td>
</tr>
<tr>
<td>Youth Learning Institute</td>
<td>$3,512,039.00</td>
<td>$1,428,704.00</td>
</tr>
<tr>
<td><strong>TOTAL: VP FOR RESEARCH AND INTERDISCIPLINARY INSTITUTES</strong></td>
<td><strong>$3,592,129.36</strong></td>
<td><strong>$1,438,613.82</strong></td>
</tr>
</tbody>
</table>

| **GRAND TOTAL:**                      | **$89,030,518.00** | **$20,487,634.00** | **$109,488,152.00** |
CLEMSON UNIVERSITY
Fund Source Comparison
FY 2016 - FY 2017

<table>
<thead>
<tr>
<th></th>
<th>FY2016</th>
<th>FY2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associations,</td>
<td>$5,419,436</td>
<td>$5,672,624</td>
</tr>
<tr>
<td>Foundations and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Societies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal</td>
<td>$81,982,266</td>
<td>$89,797,723</td>
</tr>
<tr>
<td>Industry/Other</td>
<td>$8,418,980</td>
<td>$9,290,256</td>
</tr>
<tr>
<td>State of SC/Local</td>
<td>$5,040,458</td>
<td>$4,727,549</td>
</tr>
<tr>
<td>Category and Sponsor</td>
<td>Sponsor Direct Costs</td>
<td>Sponsor F&amp;A</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>----------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Associations, Boards, Foundations, and Societies</td>
<td>$5,338,506.00</td>
<td>$334,118.00</td>
</tr>
<tr>
<td>Gifts Other</td>
<td>$77,550.00</td>
<td>$-</td>
</tr>
<tr>
<td>Gifts - CUF Sponsors</td>
<td>$11,500.00</td>
<td>$-</td>
</tr>
<tr>
<td>Various Private Sponsors (245)</td>
<td>$11,500.00</td>
<td>$-</td>
</tr>
<tr>
<td>Miscellaneous Revenue</td>
<td>$5,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Various Private Sponsors</td>
<td>$5,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Private- Non Profit</td>
<td>$5,244,456.00</td>
<td>$334,118.00</td>
</tr>
<tr>
<td>AGC Education &amp; Research Foundation</td>
<td>$9,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Alpha Foundation</td>
<td>$510,534.00</td>
<td>$69,070.00</td>
</tr>
<tr>
<td>Alzheimer’s Association</td>
<td>$4,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Association of Tissue Banks</td>
<td>$21,595.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Chemical Society</td>
<td>$220,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Chestnut Foundation</td>
<td>$141,560.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Educational Research Association</td>
<td>$20,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Floral Endowment</td>
<td>$49,502.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Heart Association</td>
<td>$210,000.00</td>
<td>$21,000.00</td>
</tr>
<tr>
<td>American Orthopsychiatric Association</td>
<td>$17,436.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Pulse Association</td>
<td>$31,180.00</td>
<td>$-</td>
</tr>
<tr>
<td>American School Counselor Association</td>
<td>$3,308.00</td>
<td>$-</td>
</tr>
<tr>
<td>American Society of Mechanical Engineers Auxiliary</td>
<td>$10,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Association of Teachers of Technical Writing(ATTW)</td>
<td>$3,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Belle W. Baruch Foundation</td>
<td>$3,661.00</td>
<td>$-</td>
</tr>
<tr>
<td>Blue Cross and Blue Shield of South Carolina</td>
<td>$56,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Boy Scouts of America</td>
<td>$36,579.00</td>
<td>$6,774.00</td>
</tr>
<tr>
<td>Boys and Girls Clubs of America</td>
<td>$44,048.00</td>
<td>$11,452.00</td>
</tr>
<tr>
<td>Brigham Young University</td>
<td>$13,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Burroughs Wellcome Fund</td>
<td>$5,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Carolina HealthCare System</td>
<td>$40,283.00</td>
<td>$-</td>
</tr>
<tr>
<td>Charles G. Koch Charitable Foundation, The</td>
<td>$15,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Charlotte Observer</td>
<td>$4,050.00</td>
<td>$-</td>
</tr>
<tr>
<td>China Medical Board</td>
<td>$12,600.00</td>
<td>$-</td>
</tr>
<tr>
<td>Collie Health Foundation</td>
<td>$38,825.00</td>
<td>$3,106.00</td>
</tr>
<tr>
<td>Companion Animal Parasite Council</td>
<td>$70,818.00</td>
<td>$-</td>
</tr>
<tr>
<td>CropLife Foundation</td>
<td>$25,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>CVS Health Foundation</td>
<td>$5,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Dabo’s All In Team Foundation</td>
<td>$85,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Fats and Proteins Research Foundation, Inc.</td>
<td>$242,817.00</td>
<td>$22,970.00</td>
</tr>
<tr>
<td>FIRST Inspires</td>
<td>$1,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Freshwater Coast Community Foundation</td>
<td>$61,500.00</td>
<td>$3,500.00</td>
</tr>
<tr>
<td>Fullerton Foundation</td>
<td>$99,993.00</td>
<td>$-</td>
</tr>
<tr>
<td>Greenville Health System (GHS)</td>
<td>$341,758.00</td>
<td>$-</td>
</tr>
<tr>
<td>Greenwood Genetics Center</td>
<td>$48,791.00</td>
<td>$1,226.00</td>
</tr>
<tr>
<td>Horticultural Research Institute</td>
<td>$38,186.00</td>
<td>$-</td>
</tr>
<tr>
<td>IEEE Control System Society</td>
<td>$9,370.00</td>
<td>$630.00</td>
</tr>
<tr>
<td>Internet2</td>
<td>$707,400.00</td>
<td>$70,740.00</td>
</tr>
<tr>
<td>J Marion Sims Foundation</td>
<td>$30,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>Johnson (Robert Wood) Foundation</td>
<td>$44,607.00</td>
<td>$5,353.00</td>
</tr>
<tr>
<td>Juvenile Diabetes Foundation International</td>
<td>$9,091.00</td>
<td>$909.00</td>
</tr>
<tr>
<td>Knights Templar Eye Foundation</td>
<td>$65,000.00</td>
<td>$-</td>
</tr>
<tr>
<td>LifeNet Health</td>
<td>$34,010.00</td>
<td>$14,860.00</td>
</tr>
<tr>
<td>Organization Name</td>
<td>Amount</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Lutz Foundation, Clarence H and Anna Elizabeth</td>
<td>$15,000.00</td>
<td></td>
</tr>
<tr>
<td>MHI/CICMHE</td>
<td>$10,000.00</td>
<td></td>
</tr>
<tr>
<td>MidwayUSA Foundation, Inc</td>
<td>$30,696.00</td>
<td></td>
</tr>
<tr>
<td>National 4H Council</td>
<td>$122,818.00</td>
<td>$12,282.00</td>
</tr>
<tr>
<td>National Institute for the Study of Transfer Students</td>
<td>$800.00</td>
<td></td>
</tr>
<tr>
<td>National Peanut Board</td>
<td>$123,244.00</td>
<td></td>
</tr>
<tr>
<td>NeighborWorks Alaska</td>
<td>$8,035.00</td>
<td></td>
</tr>
<tr>
<td>Nemours Foundation</td>
<td>$32,000.00</td>
<td></td>
</tr>
<tr>
<td>New Morning Foundation</td>
<td>$53,615.00</td>
<td></td>
</tr>
<tr>
<td>North American Raspberry &amp; Blackberry Association</td>
<td>$2,000.00</td>
<td></td>
</tr>
<tr>
<td>North American Society for Trenchless Technology</td>
<td>$3,150.00</td>
<td></td>
</tr>
<tr>
<td>North American Strawberry Growers Association</td>
<td>$15,000.00</td>
<td></td>
</tr>
<tr>
<td>North Carolina Strawberry Association, Inc</td>
<td>$5,000.00</td>
<td></td>
</tr>
<tr>
<td>Oak Ridge Associated Universities</td>
<td>$4,000.00</td>
<td></td>
</tr>
<tr>
<td>Organic Farming Research Foundation</td>
<td>$14,958.00</td>
<td></td>
</tr>
<tr>
<td>Palmetto Pride</td>
<td>$10,000.00</td>
<td></td>
</tr>
<tr>
<td>Roper Mountain Science Center</td>
<td>$1,998.00</td>
<td></td>
</tr>
<tr>
<td>Rotary Club of Clemson</td>
<td>$1,000.00</td>
<td></td>
</tr>
<tr>
<td>Saving Tiny Hearts Society</td>
<td>$65,000.00</td>
<td></td>
</tr>
<tr>
<td>SC Cattlemen’s Association</td>
<td>$6,950.00</td>
<td></td>
</tr>
<tr>
<td>SC Cotton Board</td>
<td>$54,810.00</td>
<td></td>
</tr>
<tr>
<td>SC Free Clinic Association</td>
<td>$546.00</td>
<td></td>
</tr>
<tr>
<td>SC Future Farmers of America (FFA)</td>
<td>$24,756.00</td>
<td></td>
</tr>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>$64,000.00</td>
<td></td>
</tr>
<tr>
<td>SC Peanut Board</td>
<td>$272,470.00</td>
<td></td>
</tr>
<tr>
<td>SC Research Authority (SCRA)</td>
<td>$38,064.00</td>
<td></td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>$81,537.00</td>
<td></td>
</tr>
<tr>
<td>SC Tobacco Board</td>
<td>$50,000.00</td>
<td></td>
</tr>
<tr>
<td>Schmidt (J. Frank) Family</td>
<td>$8,278.00</td>
<td></td>
</tr>
<tr>
<td>Simons Foundation</td>
<td>$36,000.00</td>
<td></td>
</tr>
<tr>
<td>Southeast Aquatic Resource Partnership</td>
<td>$80,382.00</td>
<td></td>
</tr>
<tr>
<td>Southeastern Center for Electrical Engineering</td>
<td>$47,248.00</td>
<td></td>
</tr>
<tr>
<td>Southern Region Small Fruit Consortium</td>
<td>$5,000.00</td>
<td></td>
</tr>
<tr>
<td>St. Francis Health System</td>
<td>$28,583.00</td>
<td></td>
</tr>
<tr>
<td>United Way of Chester County</td>
<td>$3,000.00</td>
<td></td>
</tr>
<tr>
<td>United Way of South Carolina</td>
<td>$1,200.00</td>
<td></td>
</tr>
<tr>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
<td>$30,000.00</td>
<td></td>
</tr>
<tr>
<td>Vanguard Charitable</td>
<td>$45,984.00</td>
<td></td>
</tr>
<tr>
<td>Wal-Mart Foundation</td>
<td>$389,772.00</td>
<td>$32,777.00</td>
</tr>
<tr>
<td>Watson-Brown Foundation, Inc.</td>
<td>$17,560.00</td>
<td></td>
</tr>
<tr>
<td>Youth Service America (YSAs)</td>
<td>$500.00</td>
<td></td>
</tr>
</tbody>
</table>

**Federal Government**

<table>
<thead>
<tr>
<th>Organization Name</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal via State Agency</td>
<td>$6,976,403.00</td>
</tr>
<tr>
<td>Medical University of SC (MUSC)</td>
<td>$31,432.00</td>
</tr>
<tr>
<td>Medical University of South Carolina (FDP)</td>
<td>$5,604.00</td>
</tr>
<tr>
<td>SC Commission on Higher Education</td>
<td>$163,702.00</td>
</tr>
<tr>
<td>SC Dept of Agriculture</td>
<td>$567,764.00</td>
</tr>
<tr>
<td>SC Dept of Archives &amp; History</td>
<td>$24,984.00</td>
</tr>
<tr>
<td>SC Dept of Education</td>
<td>$1,043,189.00</td>
</tr>
<tr>
<td>SC Dept of Natural Resources</td>
<td>$55,480.00</td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>$2,212,989.00</td>
</tr>
<tr>
<td>SC Dept of Transportation</td>
<td>$330,828.00</td>
</tr>
<tr>
<td>SC DHEC</td>
<td>$75,622.00</td>
</tr>
</tbody>
</table>

**Total**

<table>
<thead>
<tr>
<th></th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$71,494,272.00</td>
</tr>
<tr>
<td>Organization</td>
<td>Amount</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>SC DHHS</td>
<td>$1,192,329.00</td>
</tr>
<tr>
<td>SC Forestry Commission</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>SC Sea Grant Consortium</td>
<td>$201,239.00</td>
</tr>
<tr>
<td>SC Space Grant Consortium</td>
<td>$154,750.00</td>
</tr>
<tr>
<td>SC State University</td>
<td>$10,254.00</td>
</tr>
<tr>
<td>University of South Carolina</td>
<td>$806,237.00</td>
</tr>
<tr>
<td><strong>Federal: CURF</strong></td>
<td></td>
</tr>
<tr>
<td>University of Central Florida (FDP)</td>
<td>$22,017.00</td>
</tr>
<tr>
<td>US ARMY</td>
<td>$387,048.00</td>
</tr>
<tr>
<td><strong>Federal: Other</strong></td>
<td></td>
</tr>
<tr>
<td>Bureau of Engraving and Printing</td>
<td>$98,683.00</td>
</tr>
<tr>
<td>Various Federal Agencies</td>
<td>$119,525.00</td>
</tr>
<tr>
<td>Veterans Affairs</td>
<td>$102,649.00</td>
</tr>
<tr>
<td><strong>Federal: SCUREF</strong></td>
<td></td>
</tr>
<tr>
<td>SCUREF</td>
<td>$89,997.00</td>
</tr>
<tr>
<td><strong>US Dept of Commerce</strong></td>
<td></td>
</tr>
<tr>
<td>National Institute of Standards and Technology</td>
<td>$9,286.00</td>
</tr>
<tr>
<td>USDC (UNITED STATES DEPARTMENT OF COMMERCE)</td>
<td>$334,961.00</td>
</tr>
<tr>
<td><strong>US Dept of Energy (DOE)</strong></td>
<td></td>
</tr>
<tr>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>$4,064,398.00</td>
</tr>
<tr>
<td>Los Alamos National Laboratory</td>
<td>$48,096.00</td>
</tr>
<tr>
<td><strong>US Dept of Interior</strong></td>
<td></td>
</tr>
<tr>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>$1,002,850.00</td>
</tr>
<tr>
<td>USDI Fish &amp; Wildlife Service</td>
<td>$932,160.00</td>
</tr>
<tr>
<td><strong>US Dept of Transportation</strong></td>
<td></td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>$1,126,131.00</td>
</tr>
<tr>
<td><strong>USDWR Annual</strong></td>
<td></td>
</tr>
<tr>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>$97,022.00</td>
</tr>
<tr>
<td>USDI Water Resources Research Institute Annual</td>
<td>$4,688.00</td>
</tr>
<tr>
<td><strong>Department of Defense (DOD)</strong></td>
<td></td>
</tr>
<tr>
<td>Defense Threat Reduction Agency</td>
<td>$412,811.00</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>$76,580.00</td>
</tr>
<tr>
<td>National Security Agency</td>
<td>$8,500.00</td>
</tr>
<tr>
<td>US AIR FORCE</td>
<td>$468,058.00</td>
</tr>
<tr>
<td>US ARMY</td>
<td>$1,850,925.00</td>
</tr>
<tr>
<td>US Army Corp of Engineers</td>
<td>$60,834.00</td>
</tr>
<tr>
<td>US Navy</td>
<td>$1,305,842.00</td>
</tr>
<tr>
<td><strong>Department of Health &amp; Human Services (DHHS)</strong></td>
<td></td>
</tr>
<tr>
<td>NIH (National Institutes of Health/DHHS)</td>
<td>$8,129,184.00</td>
</tr>
<tr>
<td>University of Texas</td>
<td>$18,877.00</td>
</tr>
<tr>
<td><strong>Environmental Protection Agency (EPA)</strong></td>
<td></td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>$327,147.00</td>
</tr>
<tr>
<td><strong>Federal via Non SC University</strong></td>
<td></td>
</tr>
<tr>
<td>Arizona State University (FDP)</td>
<td>$8,713.00</td>
</tr>
<tr>
<td>Carnegie Mellon University</td>
<td>$16,000.00</td>
</tr>
<tr>
<td>Cornell University (FDP)</td>
<td>$370,279.00</td>
</tr>
<tr>
<td>Duke University (FDP)</td>
<td>$26,418.00</td>
</tr>
<tr>
<td>Kansas State University</td>
<td>$56,300.00</td>
</tr>
<tr>
<td>Massachusetts Institute of Technology (FDP)</td>
<td>$59,940.00</td>
</tr>
<tr>
<td>Michigan State University</td>
<td>$290,724.00</td>
</tr>
<tr>
<td>Missouri State University</td>
<td>$24,000.00</td>
</tr>
<tr>
<td>North Carolina State University (FDP)</td>
<td>$161,071.00</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>$218,005.00</td>
</tr>
<tr>
<td>Organization</td>
<td>Amount</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Pennsylvania State University (FDP)</td>
<td>$4,820.00</td>
</tr>
<tr>
<td>Purdue University (FDP)</td>
<td>$63,776.00</td>
</tr>
<tr>
<td>Rutgers, the State University of New Jersey (FDP)</td>
<td>$373,442.00</td>
</tr>
<tr>
<td>San Diego State University Foundation</td>
<td>-</td>
</tr>
<tr>
<td>University of California, Davis (FDP)</td>
<td>$23,069.00</td>
</tr>
<tr>
<td>University of Central Florida (FDP)</td>
<td>$9,334.00</td>
</tr>
<tr>
<td>University of Colorado</td>
<td>$75,106.00</td>
</tr>
<tr>
<td>University of Colorado Denver</td>
<td>$12,095.00</td>
</tr>
<tr>
<td>University of Dayton</td>
<td>$43,921.00</td>
</tr>
<tr>
<td>University of Delaware</td>
<td>$501,619.00</td>
</tr>
<tr>
<td>University of Florida (FDP)</td>
<td>$319,251.00</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>$123,707.00</td>
</tr>
<tr>
<td>University of Illinois at Urbana-Champaign</td>
<td>$236,772.00</td>
</tr>
<tr>
<td>University of Louisville</td>
<td>$33,228.00</td>
</tr>
<tr>
<td>University of Michigan (FDP)</td>
<td>$92,175.00</td>
</tr>
<tr>
<td>University of Minnesota</td>
<td>$98,775.00</td>
</tr>
<tr>
<td>University of Nebraska - Lincoln (FDP)</td>
<td>$139,488.00</td>
</tr>
<tr>
<td>University of San Diego</td>
<td>$17,162.00</td>
</tr>
<tr>
<td>University of Tennessee</td>
<td>$109,485.00</td>
</tr>
<tr>
<td>University of Texas at Austin (FDP)</td>
<td>$40,513.00</td>
</tr>
<tr>
<td>University of Texas at El Paso</td>
<td>$42,075.00</td>
</tr>
<tr>
<td>University of Texas at San Antonio</td>
<td>$14,000.00</td>
</tr>
<tr>
<td>University of Washington (FDP)</td>
<td>$42,719.00</td>
</tr>
<tr>
<td>University of Wyoming</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Virginia Polytechnic Institute and State University</td>
<td>$207,745.00</td>
</tr>
<tr>
<td>Washington State University</td>
<td>$56,200.00</td>
</tr>
<tr>
<td>Federal via Non-Government</td>
<td>$4,209,735.00</td>
</tr>
<tr>
<td>Advanced Robotics for Manufacturing Institute (ARM Institute)</td>
<td>$462,459.00</td>
</tr>
<tr>
<td>Alliance for Sustainable Energy, LLC</td>
<td>$40,497.00</td>
</tr>
<tr>
<td>Battelle</td>
<td>$30,867.00</td>
</tr>
<tr>
<td>BWX Technology</td>
<td>$58,612.00</td>
</tr>
<tr>
<td>Cal Poly Corporation</td>
<td>$33,042.00</td>
</tr>
<tr>
<td>CHK Group, Inc.</td>
<td>$21,930.00</td>
</tr>
<tr>
<td>Danforth (Donald) Plant Science Center</td>
<td>$47,481.00</td>
</tr>
<tr>
<td>Doxy.me, LLC</td>
<td>$4,934.00</td>
</tr>
<tr>
<td>Florida Fish and Wildlife Conservation Commission</td>
<td>$111,600.00</td>
</tr>
<tr>
<td>Freight Farms</td>
<td>$40,429.00</td>
</tr>
<tr>
<td>GATS, Inc.</td>
<td>$7,249.00</td>
</tr>
<tr>
<td>General Electric (GE)</td>
<td>$59,206.00</td>
</tr>
<tr>
<td>Greenville Health System (GHS)</td>
<td>$4,167.00</td>
</tr>
<tr>
<td>Lawrence Livermore National Labs</td>
<td>$67,907.00</td>
</tr>
<tr>
<td>Leidos, Inc.</td>
<td>$313,274.00</td>
</tr>
<tr>
<td>MonHVew Elementary School</td>
<td>$10,820.00</td>
</tr>
<tr>
<td>Montana Fish, Wildlife, and Parks</td>
<td>$19,583.00</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>$92,000.00</td>
</tr>
<tr>
<td>National Ability Center</td>
<td>$13,825.00</td>
</tr>
<tr>
<td>National Fish and Wildlife Foundation</td>
<td>$112,632.00</td>
</tr>
<tr>
<td>National Writing Project Corporation</td>
<td>$52,037.00</td>
</tr>
<tr>
<td>North Carolina Wildlife Resources Commission</td>
<td>$37,430.00</td>
</tr>
<tr>
<td>NUBAD, LLC</td>
<td>$234,085.00</td>
</tr>
<tr>
<td>Oak Ridge National Laboratory</td>
<td>$37,024.00</td>
</tr>
<tr>
<td>Pennsylvania Department of Agriculture</td>
<td>$854,048.00</td>
</tr>
<tr>
<td>Prasidux</td>
<td>$48,483.00</td>
</tr>
<tr>
<td>Organization</td>
<td>Amount</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Robotic Research LLC</td>
<td>$85,417.00</td>
</tr>
<tr>
<td>Savannah River National Laboratory</td>
<td>$321,398.00</td>
</tr>
<tr>
<td>Savannah River Nuclear Solutions</td>
<td>$126,640.00</td>
</tr>
<tr>
<td>SC Campaign to Prevent Teen Pregnancy</td>
<td>$11,194.00</td>
</tr>
<tr>
<td>Scientific Research Corporation (SRC)</td>
<td>$353,728.00</td>
</tr>
<tr>
<td>Smithsonian Astrophysical Observatory</td>
<td>$25,059.00</td>
</tr>
<tr>
<td>Sotera Defense Solutions</td>
<td>$32,860.00</td>
</tr>
<tr>
<td>Southeastern Wind Coalition</td>
<td>$8,181.00</td>
</tr>
<tr>
<td>Structured Materials Industries</td>
<td>$31,333.00</td>
</tr>
<tr>
<td>U.S. Endowment for Forests and Communities, Inc.</td>
<td>$230,032.00</td>
</tr>
<tr>
<td>Virginia Department of Conservation and Recreation</td>
<td>$43,846.00</td>
</tr>
<tr>
<td>VRM Labs, Inc</td>
<td>$5,263.00</td>
</tr>
<tr>
<td>Wildlife Management Institute</td>
<td>$119,183.00</td>
</tr>
<tr>
<td>National Aeronautics &amp; Space Administration (NASA)</td>
<td>$897,969.00</td>
</tr>
<tr>
<td>NASA</td>
<td>$897,969.00</td>
</tr>
<tr>
<td>National Science Foundation (NSF)</td>
<td>$23,309,159.00</td>
</tr>
<tr>
<td>NSF (National Science Foundation)</td>
<td>$23,309,159.00</td>
</tr>
<tr>
<td>US Dept of Agriculture</td>
<td>$11,778,424.00</td>
</tr>
<tr>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
<td>$11,533,468.00</td>
</tr>
<tr>
<td>USDA Forest Service (FS)</td>
<td>$244,956.00</td>
</tr>
<tr>
<td>US Dept of Education</td>
<td>$243,234.00</td>
</tr>
<tr>
<td>Office of Special Education &amp; Rehabilitative Services/Department of Ed</td>
<td>$243,234.00</td>
</tr>
<tr>
<td><strong>Industry and Other Sources</strong></td>
<td><strong>$7,576,274.00</strong></td>
</tr>
<tr>
<td>Foreign for Profit</td>
<td>$59,417.00</td>
</tr>
<tr>
<td>Bayer CropScience AG</td>
<td>$26,493.00</td>
</tr>
<tr>
<td>FEIRA Co. Ltd</td>
<td>$32,924.00</td>
</tr>
<tr>
<td>Foreign Not-for-Profit</td>
<td>$218,655.00</td>
</tr>
<tr>
<td>American University of Malta</td>
<td>$76,131.00</td>
</tr>
<tr>
<td>Binational Ag Res &amp; Dev (BARD)</td>
<td>$125,000.00</td>
</tr>
<tr>
<td>Fondazione Don Carlo Gnocchi Onlus</td>
<td>-</td>
</tr>
<tr>
<td>Institute for Marine Research</td>
<td>$9,524.00</td>
</tr>
<tr>
<td>International Center for Agricultural Research in the Dry Areas</td>
<td>$8,000.00</td>
</tr>
<tr>
<td><strong>Private Corporations &amp; Firms</strong></td>
<td><strong>$7,297,823.00</strong></td>
</tr>
<tr>
<td>Affiliated Engineers, Inc</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>$1,258,722.00</td>
</tr>
<tr>
<td>AJ Architects, LLC</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Alcon Laboratories, Inc.</td>
<td>$99,024.00</td>
</tr>
<tr>
<td>Arysta LifeScience</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>Bayer Crop Science</td>
<td>$20,367.00</td>
</tr>
<tr>
<td>Beau Clowney Design</td>
<td>$5,448.00</td>
</tr>
<tr>
<td>BMW Manufacturing Corporation</td>
<td>$223,019.00</td>
</tr>
<tr>
<td>BMW of North America</td>
<td>$47,632.00</td>
</tr>
<tr>
<td>Boeing</td>
<td>$105,853.00</td>
</tr>
<tr>
<td>Byers Design Group</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>$265,303.00</td>
</tr>
<tr>
<td>Crumbs Engineering, Inc.</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Cummings &amp; McCrady Inc.</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Decaf Company, LLC</td>
<td>$43,776.00</td>
</tr>
<tr>
<td>Dow AgroSciences LLC</td>
<td>$32,184.00</td>
</tr>
<tr>
<td>DriveSafety</td>
<td>$125,664.00</td>
</tr>
<tr>
<td>Duke Energy Corporation</td>
<td>$246,984.00</td>
</tr>
<tr>
<td>DuPont</td>
<td>$102,156.00</td>
</tr>
<tr>
<td>GE Global Research</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Company Name</td>
<td>Amount 1</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>General Electric (GE)</td>
<td>$1,440,000.00</td>
</tr>
<tr>
<td>Global Energy Interconnection Research Institute North America</td>
<td>$278,842.00</td>
</tr>
<tr>
<td>Graham Kimak Landscape Designs, LLC</td>
<td>$4,143.00</td>
</tr>
<tr>
<td>Harris Corporation</td>
<td>$16,447.00</td>
</tr>
<tr>
<td>Heartware, Inc</td>
<td>$12,789.00</td>
</tr>
<tr>
<td>Henkel Technologies</td>
<td>$215,057.00</td>
</tr>
<tr>
<td>Honda R&amp;D Americas, Inc.</td>
<td>$98,327.00</td>
</tr>
<tr>
<td>HRP Associates</td>
<td>$2,317.00</td>
</tr>
<tr>
<td>Huntington Ingalls Industries</td>
<td>$4,069.00</td>
</tr>
<tr>
<td>Integral Human Capital</td>
<td>$5,356.00</td>
</tr>
<tr>
<td>Intuitive Surgical</td>
<td>$37,582.00</td>
</tr>
<tr>
<td>Jarvik Heart</td>
<td>$3,956.00</td>
</tr>
<tr>
<td>Johnson Controls, Inc.</td>
<td>$156,236.00</td>
</tr>
<tr>
<td>Kemet Electronics Corporation</td>
<td>$31,997.00</td>
</tr>
<tr>
<td>KSQ Design</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Kultevat</td>
<td>$7,500.00</td>
</tr>
<tr>
<td>LS3P Associates, LTD</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>McMillan Pazdan Smith Architecture</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Meadors, Inc</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>MedUSim Solutions, LLC</td>
<td>$7,500.00</td>
</tr>
<tr>
<td>Merck &amp; Company</td>
<td>$42,642.00</td>
</tr>
<tr>
<td>Michelin Corporation</td>
<td>$91,813.00</td>
</tr>
<tr>
<td>Monsanto</td>
<td>$78,253.00</td>
</tr>
<tr>
<td>Naturex-DBS, LLC</td>
<td>$10,526.00</td>
</tr>
<tr>
<td>Novus Architects</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>Oculus, VR, LLC</td>
<td>$253,588.00</td>
</tr>
<tr>
<td>Omnibond Systems</td>
<td>$37,663.00</td>
</tr>
<tr>
<td>One World Technologies, Inc.</td>
<td>$61,534.00</td>
</tr>
<tr>
<td>Peerless Metal Powders and Abrasive</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>PeroxyChem</td>
<td>$46,090.00</td>
</tr>
<tr>
<td>R.J. Reynolds Tobacco</td>
<td>$147,050.00</td>
</tr>
<tr>
<td>Red Elm Residential &amp; Landscapes</td>
<td>$8,571.00</td>
</tr>
<tr>
<td>Rosenblum Coe Architects, Inc.</td>
<td>$2,724.00</td>
</tr>
<tr>
<td>SAI Global Technologies, Inc.</td>
<td>$21,886.00</td>
</tr>
<tr>
<td>Specialty Seed, Inc.</td>
<td>$4,064.00</td>
</tr>
<tr>
<td>Steelcase Health</td>
<td>$8,799.00</td>
</tr>
<tr>
<td>Syngenta Crop Protection</td>
<td>$35,706.00</td>
</tr>
<tr>
<td>Syngenta Flowers, Inc.</td>
<td>$15,873.00</td>
</tr>
<tr>
<td>The Collins Group, Inc.</td>
<td>$5,356.00</td>
</tr>
<tr>
<td>Toole Design Group</td>
<td>$3,215.00</td>
</tr>
<tr>
<td>Toyota, USA</td>
<td>$317,600.00</td>
</tr>
<tr>
<td>Confidential Sponsor</td>
<td>$136,624.00</td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>$112,869.00</td>
</tr>
<tr>
<td>Valent USA Corporation</td>
<td>$27,381.00</td>
</tr>
<tr>
<td>Various Private Sponsors</td>
<td>$10,750.00</td>
</tr>
<tr>
<td>Various Private Sponsors (245)</td>
<td>$534,628.00</td>
</tr>
<tr>
<td>Virtus Nutrition, LLC</td>
<td>$222,050.00</td>
</tr>
<tr>
<td>W.L. Gore &amp; Associates, Inc.</td>
<td>$41,000.00</td>
</tr>
<tr>
<td>Wyatt Farms, LLC</td>
<td>$22,993.00</td>
</tr>
<tr>
<td>ZF North America</td>
<td>$10,533.00</td>
</tr>
<tr>
<td>Private CURF</td>
<td>$379.00</td>
</tr>
<tr>
<td>Mellon (Andrew W.) Foundation</td>
<td>$379.00</td>
</tr>
<tr>
<td><strong>State and Local Governments</strong></td>
<td><strong>$4,621,456.00</strong></td>
</tr>
<tr>
<td>State Agencies Outside SC</td>
<td>$</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Iowa State University(ISU)[FDP]</td>
<td>$</td>
</tr>
<tr>
<td>Missouri State University</td>
<td>$</td>
</tr>
<tr>
<td>North Carolina State University (FDP)</td>
<td>$</td>
</tr>
<tr>
<td>Pennsylvania State University (FDP)</td>
<td>$</td>
</tr>
<tr>
<td>University of California, Berkeley (FDP)</td>
<td>$</td>
</tr>
<tr>
<td>University of California, Los Angeles (FDP)</td>
<td>$</td>
</tr>
<tr>
<td>University of Texas at San Antonio</td>
<td>$</td>
</tr>
<tr>
<td><strong>State Miscellaneous</strong></td>
<td>$</td>
</tr>
<tr>
<td>College of Charleston Foundation</td>
<td>$</td>
</tr>
<tr>
<td>Leadership South Carolina</td>
<td>$</td>
</tr>
<tr>
<td>Medical University of SC (MUSC)</td>
<td>$</td>
</tr>
<tr>
<td>SC Dept of Commerce</td>
<td>$</td>
</tr>
<tr>
<td>SC Dept of Natural Resources</td>
<td>$</td>
</tr>
<tr>
<td>SC DHHS</td>
<td>$</td>
</tr>
<tr>
<td>SC Forestry Commission</td>
<td>$</td>
</tr>
<tr>
<td>South Carolina Emergency Management Division</td>
<td>$</td>
</tr>
<tr>
<td>South Carolina Governor’s School for Science and Mathematics</td>
<td>$</td>
</tr>
<tr>
<td>University of South Carolina</td>
<td>$</td>
</tr>
<tr>
<td>Winthrop University</td>
<td>$</td>
</tr>
<tr>
<td><strong>Local Grants and Contracts</strong></td>
<td>$</td>
</tr>
<tr>
<td>Anderson County</td>
<td>$</td>
</tr>
<tr>
<td>Anderson County Planning and Development Board</td>
<td>$</td>
</tr>
<tr>
<td>Appalachian Council of Governments</td>
<td>$</td>
</tr>
<tr>
<td>Berkeley County</td>
<td>$</td>
</tr>
<tr>
<td>Charleston County</td>
<td>$</td>
</tr>
<tr>
<td>City of Aiken</td>
<td>$</td>
</tr>
<tr>
<td>City of Anderson</td>
<td>$</td>
</tr>
<tr>
<td>City of Clemson</td>
<td>$</td>
</tr>
<tr>
<td>City of Greenville</td>
<td>$</td>
</tr>
<tr>
<td>City of Lancaster</td>
<td>$</td>
</tr>
<tr>
<td>City of Rock Hill</td>
<td>$</td>
</tr>
<tr>
<td>Clarendon County</td>
<td>$</td>
</tr>
<tr>
<td>Dorchester County</td>
<td>$</td>
</tr>
<tr>
<td>Greenville County</td>
<td>$</td>
</tr>
<tr>
<td>Greenville County Planning Commission</td>
<td>$</td>
</tr>
<tr>
<td>Greenville County Redevelopment Authority</td>
<td>$</td>
</tr>
<tr>
<td>Jasper County School District</td>
<td>$</td>
</tr>
<tr>
<td>Laurens County</td>
<td>$</td>
</tr>
<tr>
<td>Laurens County Council</td>
<td>$</td>
</tr>
<tr>
<td>McCormick County</td>
<td>$</td>
</tr>
<tr>
<td>Pickens County</td>
<td>$</td>
</tr>
<tr>
<td>Saluda School District</td>
<td>$</td>
</tr>
<tr>
<td>Spartanburg County</td>
<td>$</td>
</tr>
<tr>
<td>Town of Kiawah Island</td>
<td>$</td>
</tr>
<tr>
<td>Union County, SC</td>
<td>$</td>
</tr>
<tr>
<td>York County</td>
<td>$</td>
</tr>
<tr>
<td>SC Dept of Education</td>
<td>$</td>
</tr>
<tr>
<td>SC EPSCOR</td>
<td>$</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>$</td>
</tr>
</tbody>
</table>
Summary of Proposal Submissions
CLEMSON UNIVERSITY
Proposal Submissions
Six-Year Comparison

Number of Proposals Submitted

<table>
<thead>
<tr>
<th></th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
<th>FY16</th>
<th>FY17</th>
</tr>
</thead>
<tbody>
<tr>
<td># Proposals</td>
<td>1408</td>
<td>1414</td>
<td>1443</td>
<td>1489</td>
<td>1478</td>
<td>1536</td>
</tr>
</tbody>
</table>
Clemson University

Research Awards by College, Department and Investigator
Fiscal Year 2016

Appendix
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Percent</th>
<th>Award Share</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbajales-Dale, Patricia</td>
<td>Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors</td>
<td>15.00%</td>
<td>$14,892.60</td>
<td>2010871</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gemmill, Jill B</td>
<td>Collaborative Research: CICI: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
<td>5.00%</td>
<td>$24,990.25</td>
<td>2011531</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ngo, Linh B</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>3.00%</td>
<td>$42,066.00</td>
<td>2021810</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Department of Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zhang, Nuyun</td>
<td>Collaborative Research: CICI: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
<td>10.00%</td>
<td>$49,980.50</td>
<td>2011531</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zhang, Nuyun</td>
<td>Collaborative Research: CICI: Regional: SouthEast SciEntific Cybersecurity for University REsearch (SouthEast SECURE)</td>
<td>10.00%</td>
<td>$15,800.40</td>
<td>2011610</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ziolkowski, Marcin</td>
<td>Campus Bridging for Stampede</td>
<td>50.00%</td>
<td>$28,125.00</td>
<td>2009467</td>
</tr>
<tr>
<td></td>
<td>Sponsor: University of Texas at Austin (FDP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total: CCIT Research Support</strong></td>
<td></td>
<td></td>
<td>$175,854.75</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project Code</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Gemmill, Jill B</td>
<td>CC* Cyber Team: Cyberinfrastructure Empowerment for Diverse Research, Scholarship, and Workforce Development (CI Empower)</td>
<td>50.00%</td>
<td>$124,312.00</td>
<td>2011801</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total: Chief Technology Office</strong></td>
<td></td>
<td></td>
<td>$124,312.00</td>
<td></td>
</tr>
<tr>
<td>Bottum, James R</td>
<td>Campus Bridging for Stampede</td>
<td>50.00%</td>
<td>$28,125.00</td>
<td>2009467</td>
</tr>
<tr>
<td></td>
<td>Sponsor: University of Texas at Austin (FDP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottum, James R</td>
<td>CC* Cyber Team: Cyberinfrastructure Empowerment for Diverse Research, Scholarship, and Workforce Development (CI Empower)</td>
<td>50.00%</td>
<td>$124,312.00</td>
<td>2011801</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total: CIO Office</strong></td>
<td></td>
<td></td>
<td>$152,437.00</td>
<td></td>
</tr>
<tr>
<td>McKenzie, Kevin M</td>
<td>Collaborative Research: CICI: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
<td>5.00%</td>
<td>$24,990.25</td>
<td>2011531</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total: Information Security &amp; Privacy</strong></td>
<td></td>
<td></td>
<td>$24,990.25</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL: CLEMSON COMPUTING AND INFORMATION TECHNOLOGY**

$477,594.00

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Agricultural Sciences**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fravel, Philip M</td>
<td>Agriculture Education Professional Development</td>
<td>100.00%</td>
<td>$59,000.00</td>
<td>2011511</td>
</tr>
<tr>
<td></td>
<td>Sponsor: SC Dept of Education</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Han, Young J  
Utilizing Space-Based Technology to Determine Hydrological Properties of Soils for Characterizing, Understanding, and Predicting Terrestrially Linked Components of the Hydrologic Cycle  
Sponsor: NASA  
15.00% $19,123.50 2010460

Han, Young J  
Real-time, Variable-Depth Tillage for Managing Soil Compaction in Cotton Production  
Sponsor: Cotton Incorporated  
25.00% $2,500.00 2011771

Hitchcock, Daniel R  
Clean WaterR3 - Reduce, Remediate, Recycle: Informed Decision Making to Facilitate Use of Alternative Water Resources and Promote Sustainable Specialty  
Sponsor: Department of Agriculture  
20.00% $354,225.40 2020386

Khalilian, Ahmad  
Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities  
Sponsor: Department of Agriculture  
7.50% $12,600.00 2010322

Khalilian, Ahmad  
Utilizing Space-Based Technology to Determine Hydrological Properties of Soils for Characterizing, Understanding, and Predicting Terrestrially Linked Components of the Hydrologic Cycle  
Sponsor: NASA  
25.00% $31,872.50 2010460

Khalilian, Ahmad  
Real-time, Variable-Depth Tillage for Managing Soil Compaction in Cotton Production  
Sponsor: Cotton Incorporated  
25.00% $2,500.00 2011771

Khalilian, Ahmad  
Developing a Sensor-Based, Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems (pre-doctoral fellowship)  
Sponsor: Department of Agriculture  
20.00% $18,961.60 2011794

Khalilian, Ahmad  
Field Testing of the Clemson Electro-Mechanical Controller for Adjusting Pump Stroke On-the-Go  
Sponsor: Cotton Incorporated  
50.00% $3,917.00 2011907

Khalilian, Ahmad  
A Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems  
34.00% $2,876.40 2011908
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Submission Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton Incorporated</td>
<td>Mechanizing Root Collar Excavation to Control Armillaria Root Rot in Peaches</td>
<td>70.00%</td>
<td>$3,500.00</td>
<td>2011819</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>Reducing Tillage Implements Draft Force Requirements Using Power Ultrasound Vibrations</td>
<td>100.00%</td>
<td>$9,672.00</td>
<td>2011875</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC Peanut Board</td>
<td>Short and Long-term Solutions for Armillaria Root Rot in Prunus</td>
<td>5.00%</td>
<td>$44,410.50</td>
<td>2011936</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania Department of Agriculture</td>
<td>USDA-AMS TA Grant (AMSTA)</td>
<td>100.00%</td>
<td>$6,073.00</td>
<td>2011329</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania State University</td>
<td>Stronger Economies Together-Phase VI</td>
<td>100.00%</td>
<td>$26,400.00</td>
<td>2011672</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missouri State University</td>
<td>Capacity Building for USDA-Rural Development Programs in South Carolina</td>
<td>50.00%</td>
<td>$56,021.00</td>
<td>2011735</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Agricultural Sciences**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Submission Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC DHEC</td>
<td>DHEC Farm-to-Retail</td>
<td>75.00%</td>
<td>$37,500.00</td>
<td>2011976</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moving Regional Food Systems Toward Sustainability: An Adaptive and Interactive Online Course in Local Food System Development for NC, SC, and VA Extension Agents and Providers</td>
<td>75.00%</td>
<td>$17,839.50</td>
<td>2012063</td>
</tr>
</tbody>
</table>
Sponsor: North Carolina State University

Lamie, Ronald D
Building Entrepreneurial Farm Management and Land Stewardship Capacity for South Carolina New and Beginning Farmers
Sponsor: Department of Agriculture
75.00% $446,349.75 2021398

Liang, Wei-Zhen
Image Analysis for Soybean Leaf Defoliation
Sponsor: SC Soybean Board
50.00% $3,750.00 2011968

Privette III, Charles V
Utilizing Space-Based Technology to Determine Hydrological Properties of Soils for Characterizing, Understanding, and Predicting Terrestrially Linked Components of the Hydrologic Cycle
Sponsor: NASA
25.00% $31,872.50 2010460

Smith, Nathaniel B
Sponsor: National Peanut Board
25.00% $30,811.00 2011853

Vassalos, Michael
DHEC Farm-to-Retail
Sponsor: SC DHEC
25.00% $12,500.00 2011976

Vassalos, Michael
Evaluating the Potential of Organic Farming Practices in SC
Sponsor: Department of Agriculture
40.00% $29,942.40 2021924

Willis, David Brian
An Update to Economic Impact Analysis of South Carolina, 2015
Sponsor: SC Forestry Commission
33.00% $3,052.50 2011804

Total: Agricultural Sciences $1,267,270.55

Animal & Veterinary Sciences

Birrenkott Jr, Glenn P
Sorghum as a Feedstuff for Gamebirds and Broilers
Sponsor: Department of Agriculture
10.00% $9,986.90 2012098
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Modification Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Graduate Student Internship-Evaluation of Commercialization and Technology Transfer Potential of ACREC Technologies</td>
<td>100.00%</td>
<td>$6,600.00</td>
<td>2011996</td>
</tr>
<tr>
<td>Fats and Proteins Research Foundation, Inc.</td>
<td>Rumen Fermentation Responses of Feed Supplements for Ruminants</td>
<td>100.00%</td>
<td>$277,562.00</td>
<td>2011705</td>
</tr>
<tr>
<td>Virtus Nutrition, LLC</td>
<td>Sorghum as a Feedstuff for Gamebirds and Broilers</td>
<td>10.00%</td>
<td>$9,986.90</td>
<td>2012098</td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Sorghum as a Feedstuff for Gamebirds and Broilers</td>
<td>65.00%</td>
<td>$64,914.85</td>
<td>2012098</td>
</tr>
</tbody>
</table>

**Total: Animal & Veterinary Sciences**

$369,050.65

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Environmental Toxicology**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Modification Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>Pollution Prevention (P2) through an Economy-Energy-Environment (E3) Partnership in South Carolina</td>
<td>20.00%</td>
<td>$12,741.80</td>
<td>2022055</td>
</tr>
</tbody>
</table>

**Total: Environmental Toxicology**

$12,741.80

**Food Science and Human Nutrition**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Modification Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of South Carolina</td>
<td>Faith, Activity, and Nutrition: Dissemination in Underserved Communities</td>
<td>100.00%</td>
<td>$9,647.00</td>
<td>2011716</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------------------------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Condrasky, Margaret D.</td>
<td>Outreach Training for SC Child Care Team Nutrition</td>
<td>SC Dept of Social Services</td>
<td>100.00%</td>
<td>$10,231.00</td>
</tr>
<tr>
<td>Fraser, Angela M</td>
<td>Building Capacity to Control Viral Food-borne Disease: A Transitional, Multi-Disciplinary Approach</td>
<td>North Carolina State University</td>
<td>55.00%</td>
<td>-$94,949.80</td>
</tr>
<tr>
<td>Jiang, Xiuping</td>
<td>Building Capacity to Control Viral Food-borne Disease: A Transitional, Multi-Disciplinary Approach</td>
<td>North Carolina State University</td>
<td>25.00%</td>
<td>-$43,159.00</td>
</tr>
<tr>
<td><strong>Total: Food Science and Human Nutrition</strong></td>
<td></td>
<td></td>
<td></td>
<td>-$118,230.80</td>
</tr>
<tr>
<td>Baldwin, Robert Fritz</td>
<td>Interactive Conservation Planning for the Appalachian LCC</td>
<td>Wildlife Management Institute</td>
<td>100.00%</td>
<td>$137,061.00</td>
</tr>
<tr>
<td>Baldwin, Robert Fritz</td>
<td>Mapping Historic Landscapes in South Carolina Vital to National and International Wetland Conservation Goals</td>
<td>Nemours Foundation</td>
<td>100.00%</td>
<td>$13,000.00</td>
</tr>
<tr>
<td>Baldwin, Robert Fritz</td>
<td>Outreach Activities for the Consortium of Appalachian Fire Managers and Scientists</td>
<td>Department of Agriculture</td>
<td>100.00%</td>
<td>$75,386.00</td>
</tr>
<tr>
<td>Barrett, Russell K</td>
<td>A Resurvey of Historical Green Salamander Locations in South Carolina</td>
<td>SC Dept of Natural Resources</td>
<td>100.00%</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Chow, Alex T.</td>
<td>Retreat of Tidally Influenced Freshwater Forested Wetlands in the Southeast: Biogeochemical Investigations and Field Support</td>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>50.00%</td>
<td>$19,999.50</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Proposal Title</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>------------</td>
<td>------------</td>
<td>---------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Conner, William H</td>
<td>10.00%</td>
<td>$24,978.00</td>
<td>Identifying and Evaluating Impacts to Wetlands from the Savannah River Estuary</td>
<td></td>
</tr>
<tr>
<td>Sponsor: US ARMY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conner, William H</td>
<td>50.00%</td>
<td>$19,999.50</td>
<td>Retreat of Tidally Influenced Freshwater Forested Wetlands in the Southeast: Biogeochemical Investigations and Field Support</td>
<td></td>
</tr>
<tr>
<td>Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conner, William H</td>
<td>20.00%</td>
<td>$30,453.60</td>
<td>RAPID Proposal: Impact of Storm Surge on Coastal Forest Demography in Response to Repeated Hurricane Disturbances</td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hagan, Donald L.</td>
<td>100.00%</td>
<td>$7,000.00</td>
<td>Analysis of NPS Fire Effects Data</td>
<td></td>
</tr>
<tr>
<td>Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hagan, Donald L.</td>
<td>100.00%</td>
<td>$172,815.00</td>
<td>Community and Ecosystem-level Effects of Growing v. Dormant Season Burning in the Southern Appalachians</td>
<td></td>
</tr>
<tr>
<td>Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heaton, William C</td>
<td>75.00%</td>
<td>$8,241.00</td>
<td>Evaluation of Deer Repellent Application Timing and Frequency for Suppression of Feeding Injury to Soybeans by White-Tailed Deer and Assessment of Simulated Feeding Injury Timing and Severity on Yields</td>
<td></td>
</tr>
<tr>
<td>Sponsor: SC Soybean Board</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hiesl, Patrick</td>
<td>90.00%</td>
<td>$55,750.50</td>
<td>Pine Seedling and Thinning Demonstration Site Development in the Piedmont of South Carolina</td>
<td></td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jachowski, David Scott</td>
<td>100.00%</td>
<td>$37,761.00</td>
<td>Evaluating Bat Community Structure post-WNS in Chickamauga and Chattanooga National Military Park</td>
<td></td>
</tr>
<tr>
<td>Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jachowski, David Scott</td>
<td>100.00%</td>
<td>$24,649.00</td>
<td>Montana Swift Fox Research</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Sponsorship Amount</td>
<td>Sponsorship Number</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Jachowski, David Scott</td>
<td>Northern Great Plains Swift Fox Connectivity Project</td>
<td>National Fish and Wildlife Foundation</td>
<td>100.00%  $158,406.00</td>
<td>2021524</td>
</tr>
<tr>
<td>Jachowski, David Scott</td>
<td>Conserving Florida Grasshopper Sparrows by Understanding Predation Impacts and Habitat Use by a Common Nest Predator, the Eastern Spotted Skunk, in Relation to On-going Prescribed Fire Management</td>
<td>Florida Fish and Wildlife Conservation Commission</td>
<td>100.00%  $117,000.00</td>
<td>2021725</td>
</tr>
<tr>
<td>Jodice, Patrick G</td>
<td>Establishment and Operation of the South Carolina Cooperative Research Unit</td>
<td></td>
<td>100.00%  $40,000.00</td>
<td>2002577</td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Forestry & Environmental Conservation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Sponsorship Amount</th>
<th>Sponsorship Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jodice, Patrick G</td>
<td>Spatial Ecology, Movement Patterns, and At-Sea Habitat Use of Brow Pelicans in the South Atlantic Bight</td>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>100.00%  $417,526.00</td>
<td>2011574</td>
</tr>
<tr>
<td>Kanno, Yoichiro</td>
<td>Identifying Spawning Locations and Habitat Characteristics of Atlantic Sturgeon in the Savannah River</td>
<td>SC Dept of Natural Resources</td>
<td>1.00%  $851.70</td>
<td>2011452</td>
</tr>
<tr>
<td>Kanno, Yoichiro</td>
<td>South Carolina Small River Conservation Planning Project (2016-2018)</td>
<td>SC Dept of Natural Resources</td>
<td>100.00%  $17,230.00</td>
<td>2011661</td>
</tr>
<tr>
<td>Kanno, Yoichiro</td>
<td>Population Analysis of Self-Sustaining Trout in North Carolina Streams: Current Dynamics and Future Monitoring Strategies</td>
<td>North Carolina Wildlife Resources Commission</td>
<td>100.00%  $56,894.00</td>
<td>2011764</td>
</tr>
<tr>
<td>Khanal, Puskar</td>
<td>An Update to Economic Impact Analysis of South Carolina, 2015</td>
<td></td>
<td>34.00%  $3,145.00</td>
<td>2011804</td>
</tr>
<tr>
<td>Sponsor: SC Forestry Commission</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McMillan, Patrick D.</td>
<td>In Situ and Ex Situ Rare Plant Conservation</td>
<td>100.00%</td>
<td>$10,000.00</td>
<td>2022020</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mikhailova, Elena</td>
<td>Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy</td>
<td>35.00%</td>
<td>$46,473.35</td>
<td>2021923</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motallebi, Marzieh</td>
<td>Sorghum as a Feedstuff for Gamebirds and Broilers</td>
<td>10.00%</td>
<td>$9,986.90</td>
<td>2012098</td>
</tr>
<tr>
<td>Sponsor: United Sorghum Checkoff Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motallebi, Marzieh</td>
<td>Promotion of a Sustainable Carbon Market to South Carolina Forest Landowners</td>
<td>70.00%</td>
<td>$52,451.00</td>
<td>2021917</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motallebi, Marzieh</td>
<td>Evaluating the Potential of Organic Farming Practices in SC</td>
<td>60.00%</td>
<td>$44,913.60</td>
<td>2021924</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O'Halloran, Thomas L</td>
<td>RAPID Proposal: Impact of Storm Surge on Coastal Forest Demography in Response to Repeated Hurricane Disturbances</td>
<td>20.00%</td>
<td>$30,453.60</td>
<td>2011803</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O'Halloran, Thomas L</td>
<td>Evaluating the Net Climate Benefits of Switchgrass versus Pine Plantations in the Southeast: A Seed Grant to Support Data Collection and Model Development</td>
<td>67.00%</td>
<td>$98,988.48</td>
<td>2011972</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peoples, Brandon Kevin</td>
<td>Identifying Spawning Locations and Habitat Characteristics of Atlantic Sturgeon in the Savannah River</td>
<td>80.00%</td>
<td>$68,136.00</td>
<td>2011452</td>
</tr>
<tr>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peoples, Brandon Kevin</td>
<td>South Carolina Water Resources Center Program Management</td>
<td>20.00%</td>
<td>$18,466.80</td>
<td>2021202</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Code</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>USDI Water Resources Research Institute Annual</td>
<td>Assessment of riverine hybridization and spawning micro-habitat of redeye bass and Alabama bass in the upper Savannah River basin (SC)</td>
<td>100.00%</td>
<td>$80,382.00</td>
<td>2021756</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Southeast Aquatic Resource Partnership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post, Christopher J.</td>
<td>Hydrological Evaluation of the Sand River Headwaters Stormwater Infrastructure</td>
<td>100.00%</td>
<td>$150,000.00</td>
<td>2009470</td>
</tr>
<tr>
<td></td>
<td>Sponsor: City of Aiken</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>COLLEGE OF AGRICULTURE, FORESTRY &amp; LIFE SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Forestry &amp; Environmental Conservation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post, Christopher J.</td>
<td>Identifying Spawning Locations and Habitat Characteristics of Atlantic Sturgeon in the Savannah River</td>
<td>19.00%</td>
<td>$16,182.30</td>
<td>2011452</td>
</tr>
<tr>
<td></td>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post, Christopher J.</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>3.00%</td>
<td>$42,066.00</td>
<td>2021810</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Department of Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post, Christopher J.</td>
<td>Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy</td>
<td>20.00%</td>
<td>$26,556.20</td>
<td>2021923</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rodgers Jr, John H</td>
<td>SRR Account</td>
<td>100.00%</td>
<td>$88,900.00</td>
<td>1980735</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Various Private Sponsors (245)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ross, Beth</td>
<td>Analysis of Bird Population Count Data</td>
<td>100.00%</td>
<td>$15,000.00</td>
<td>2011548</td>
</tr>
<tr>
<td></td>
<td>Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Song, Bo</td>
<td>To Continue Monitoring the Recovery of Coastal Plain Forests from Hurricane Hugo</td>
<td>100.00%</td>
<td>$379.00</td>
<td>2005719</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Proposal Number</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>--------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Song, Bo</td>
<td>RAPID Proposal: Impact of Storm Surge on Coastal Forest Demography in Response to Repeated Hurricane Disturbances</td>
<td>Mellon (Andrew W.) Foundation</td>
<td>20.00%</td>
<td>$30,453.60</td>
</tr>
<tr>
<td>Straka, Thomas J</td>
<td>An Update to Economic Impact Analysis of South Carolina, 2015</td>
<td>National Science Foundation</td>
<td>33.00%</td>
<td>$3,052.50</td>
</tr>
<tr>
<td>Wang, Gaofeng G</td>
<td>Ice Storm Impact on Forest Health: Monitoring and Predicting the Growth and Mortality of Ice-damaged Trees in Southern Forests</td>
<td>SC Forestry Commission</td>
<td>100.00%</td>
<td>$45,592.00</td>
</tr>
<tr>
<td>Wang, Gaofeng G</td>
<td>Modeling Fire-induced Tree Mortality for Eastern Hardwood Forests</td>
<td>SC Forestry Commission</td>
<td>100.00%</td>
<td>$165,426.00</td>
</tr>
<tr>
<td>Willey, Richard D</td>
<td>Clemson University Curriculum Shooting Sports Program</td>
<td>MidwayUSA Foundation, Inc</td>
<td>100.00%</td>
<td>$6,185.00</td>
</tr>
<tr>
<td>Willey, Richard D</td>
<td>Clemson University Shotgun Team</td>
<td>MidwayUSA Foundation, Inc</td>
<td>100.00%</td>
<td>$15,781.00</td>
</tr>
<tr>
<td>Willey, Richard D</td>
<td>SC 4-H Shooting Sports Program</td>
<td>MidwayUSA Foundation, Inc</td>
<td>100.00%</td>
<td>$5,164.00</td>
</tr>
<tr>
<td>Yarrow, Greg K</td>
<td>Movement, Habitat Use and Nest Use by Black-Bellied Whistling Ducks in Coastal South Carolina</td>
<td>Nemours Foundation</td>
<td>100.00%</td>
<td>$19,000.00</td>
</tr>
</tbody>
</table>

**Total:** Forestry & Environmental Conservation  
$2,553,136.13
### Plant & Environmental Sciences

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Sponsor</th>
<th>%</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelberg, Jeffrey W</td>
<td>Horticulture - SRR Account</td>
<td>Various Private Sponsors (245)</td>
<td>100.00%</td>
<td>$7,500.00</td>
<td>1980408</td>
</tr>
<tr>
<td>Adelberg, Jeffrey W</td>
<td>Development of a Rapid in Vitro Assay for Screening for Armillaria Root Rot Infection and Resistance</td>
<td>SC Peach Council &amp; Promotion Board</td>
<td>33.00%</td>
<td>$2,640.00</td>
<td>2011827</td>
</tr>
<tr>
<td>Adler, Peter H</td>
<td>Mechanisms of Fluid Feeding in Insects, from Nanoscale to Organism</td>
<td>National Science Foundation</td>
<td>50.00%</td>
<td>$99,545.50</td>
<td>2010169</td>
</tr>
<tr>
<td>Agudelo, Paula</td>
<td>Growing New Roots: Grafting to Enhance Resiliency in U.S. Vegetable Industries</td>
<td>North Carolina State University</td>
<td>25.00%</td>
<td>$87,602.25</td>
<td>2011624</td>
</tr>
<tr>
<td>Agudelo, Paula</td>
<td>Reniform Nematode Infection of Gossypium barbadense: Transcriptomic Profiling of Resistant and Susceptible Response</td>
<td>Cotton Incorporated</td>
<td>100.00%</td>
<td>$31,400.00</td>
<td>2011723</td>
</tr>
<tr>
<td>Anco, Daniel J</td>
<td>Test Efficacy of VBC-80106 and Possible Interactions with VBC-40029 and VBC-90052</td>
<td>Valent USA Corporation</td>
<td>100.00%</td>
<td>$14,500.00</td>
<td>2011635</td>
</tr>
<tr>
<td>Anco, Daniel J</td>
<td>Agronomic Evaluation of Virginia and Runner Type Peanut Cultivars for South Carolina, With Evaluation and Implementation of Improved Monitoring, Production and Harvest Systems &amp; 2016</td>
<td>SC Peanut Board</td>
<td>30.00%</td>
<td>$34,170.60</td>
<td>2011852</td>
</tr>
<tr>
<td>Anco, Daniel J</td>
<td>Improved Peanut Production through Agronomic Evaluation of Cultivars, Enhanced Pest Management Practices, Intensive Yield Analysis and Economics</td>
<td>National Peanut Board</td>
<td>25.00%</td>
<td>$30,811.00</td>
<td>2011853</td>
</tr>
<tr>
<td>Anco, Daniel J</td>
<td>Enhancing South Carolina Peanut Production through Improved Harvest and Management</td>
<td></td>
<td>40.00%</td>
<td>$21,899.20</td>
<td>2011877</td>
</tr>
</tbody>
</table>
**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Project Title</th>
<th>Sponsor送</th>
<th>Percentage</th>
<th>Amount</th>
<th>Award Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anco, Daniel J</td>
<td>Sifting Germplasm to Identify Hypoallergenic Peanut Genotypes: Gathering Ammunition for the Future Breeding</td>
<td>SC Peanut Board</td>
<td>10.00%</td>
<td>$1,104.50</td>
<td>2011879</td>
</tr>
<tr>
<td>Appukuttan Suseela, Vidya</td>
<td>Investigating the Plant-soil Feedbacks that Maintain the Legacy Effect in Invaded Ecosystems to Formulate Knowledge based Restoration Practices</td>
<td>Monsanto</td>
<td>65.00%</td>
<td>$292,500.00</td>
<td>2012057</td>
</tr>
<tr>
<td>Benson, Eric P</td>
<td>Research Support - SRR Account</td>
<td>Various Private Sponsors (245)</td>
<td>100.00%</td>
<td>$12,000.00</td>
<td>1980326</td>
</tr>
<tr>
<td>Caterino, Michael S</td>
<td>CSBR: Natural History Expanding the Footprint and the Reach of the Clemson University Arthropod Collection</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$108,565.00</td>
<td>2010721</td>
</tr>
<tr>
<td>Chong, Juang Horng</td>
<td>Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities</td>
<td>Department of Agriculture</td>
<td>7.50%</td>
<td>$12,600.00</td>
<td>2010322</td>
</tr>
<tr>
<td>Chong, Juang Horng</td>
<td>Impacts and Residual Longevity of Systematic Insecticides on Pollinators in Ornamental Plant Production System</td>
<td>American Floral Endowment</td>
<td>76.00%</td>
<td>$3,283.20</td>
<td>2010540</td>
</tr>
<tr>
<td>Researcher/Title</td>
<td>Project Description</td>
<td>Funding Details</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chong, Juang Horng</td>
<td>Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture</td>
<td>52.00% $154,505.00 2011807</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chong, Juang Horng</td>
<td>Efficacy of New Pest Management Technologies (V-10433, V-10466, V-10457 and V-10458) against Melon Aphid and Sweetpotato Whitefly on Vegetables Grown in Greenhouse</td>
<td>100.00% $20,000.00 2012046</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmaha, Bhuminder Singh</td>
<td>Evaluating Potassium Fertilizer Recommendations for Irrigated and Dryland Soybean in South Carolina</td>
<td>100.00% $9,000.00 2011969</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faust, James Emerson</td>
<td>Horticulture Research - SRR Account1980337 12_06_161980</td>
<td>100.00% $86,000.00 1980337</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faust, James Emerson</td>
<td>Finding Solutions to Pre-harvest Botrytis Infection of Cut Roses</td>
<td>50.00% $22,591.00 2011510</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasic, Ksenija</td>
<td>Peach Research Support - SRR</td>
<td>100.00% $5,000.00 1980598</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasic, Ksenija</td>
<td>Understanding the Molecular Basis of Carotenoid Synthesis and Accumulation in Stone Fruit: A Platform to Enhance Fruit Value</td>
<td>70.00% $105,000.00 2011682</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasic, Ksenija</td>
<td>Peach Breeding for Fruit Quality and Disease Tolerance/Resistance</td>
<td>100.00% $10,000.00 2011818</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasic, Ksenija</td>
<td>Peach and Nectarine Cultivar Evaluation, Website, and Preparations for a New Variety Trial</td>
<td>30.00% $1,500.00 2011821</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: SC Peach Council &amp; Promotion Board</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Pennsylvania Department of Agriculture</th>
</tr>
</thead>
</table>

| Gasic,Ksenija | Short and Long-term Solutions for Armillaria Root Rot in Prunus | 20.00% | $177,642.00 | 2011936 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Michigan State University</th>
</tr>
</thead>
</table>

| Gasic,Ksenija | RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars | 50.00% | $170,827.00 | 2020373 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Washington State University</th>
</tr>
</thead>
</table>

| Gasic,Ksenija | Genome Database for Rosaceae: Empowering Specialty Crop Research Through Big-Data Driven Discovery and Application in Breeding | 100.00% | $70,126.00 | 2020404 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Department of Agriculture</th>
</tr>
</thead>
</table>

| Greene,Jeremy K | Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities | 7.50% | $12,600.00 | 2010322 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>North Carolina State University</th>
</tr>
</thead>
</table>

| Greene,Jeremy K | Impact of Transgenic Bt (Crops on Helicoverpa Zea Ecology and Subsequent Resistance Risk | 50.00% | $750.00 | 2010501 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Bayer Crop Science</th>
</tr>
</thead>
</table>

| Greene,Jeremy K | Efficacy of Experimental Soybeans on Lepidopteran Pests (Bayer - 2016) | 100.00% | $25,000.00 | 2011471 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>SC Cotton Board</th>
</tr>
</thead>
</table>

| Greene,Jeremy K | Using Soil Electrical Conductivity and NDVI to Improve Thrips Management in Cotton | 40.00% | $3,726.00 | 2011860 |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>SC Cotton Board</th>
</tr>
</thead>
</table>

<p>| Greene,Jeremy K | Development of a Field-based Detection Tool for Helicoverpa Armigera | 5.00% | $443.00 | 2011880 |</p>
<table>
<thead>
<tr>
<th>Sponsor: SC Peanut Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Effect of Variety on Populations of and Injury from Thrips in Cotton, Year 2</td>
</tr>
<tr>
<td>50.00% $4,869.00 2011906</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Evaluations of Bt Technology in Soybeans in SC, 2017</td>
</tr>
<tr>
<td>100.00% $25,000.00 2011910</td>
</tr>
<tr>
<td>Sponsor: Monsanto</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Effect of Planting Date on Populations of Thrips in Cotton (Year 3 &amp; Final Year): Data to Validate a Model for Predicting Temporal Susceptibility to Thrips</td>
</tr>
<tr>
<td>50.00% $4,869.00 2011950</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Evaluation of Deer Repellent Application Timing and Frequency for Suppression of Feeding Injury to Soybeans by White-Tailed Deer and Assessment of Simulated Feeding Injury Timing and Severity on Yields</td>
</tr>
<tr>
<td>25.00% $2,747.00 2011963</td>
</tr>
<tr>
<td>Sponsor: SC Soybean Board</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Image Analysis for Soybean Leaf Defoliation</td>
</tr>
<tr>
<td>25.00% $1,875.00 2011968</td>
</tr>
<tr>
<td>Sponsor: SC Soybean Board</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>Collaborative Efforts to Manage Insect Pests of Cotton in the Southeast, 2017</td>
</tr>
<tr>
<td>50.00% $10,712.50 2011995</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
</tr>
<tr>
<td>Greene, Jeremy K</td>
</tr>
<tr>
<td>ISM-555 CP NA DC100 Rate Definition - Stink Bugs on Soybean (ICV050A3-2017US)</td>
</tr>
<tr>
<td>100.00% $11,340.00 2012033</td>
</tr>
<tr>
<td>Sponsor: Syngenta Crop Protection</td>
</tr>
<tr>
<td>Hassell, Richard L</td>
</tr>
<tr>
<td>Growing New Roots: Grafting to Enhance Resiliency in U.S. Vegetable Industries</td>
</tr>
<tr>
<td>25.00% $87,602.25 2011624</td>
</tr>
<tr>
<td>Sponsor: North Carolina State University</td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Hassell, Richard L</td>
</tr>
<tr>
<td>Hassell, Richard L</td>
</tr>
<tr>
<td>Jeffers, Steven Nye</td>
</tr>
<tr>
<td>Jeffers, Steven Nye</td>
</tr>
<tr>
<td>Jeffers, Steven Nye</td>
</tr>
<tr>
<td>Jones, Michael A</td>
</tr>
<tr>
<td>Jones, Michael A</td>
</tr>
<tr>
<td>Jones, Michael A</td>
</tr>
<tr>
<td>Sponsor</td>
</tr>
<tr>
<td>---------------------------------</td>
</tr>
<tr>
<td>SC Cotton Board</td>
</tr>
<tr>
<td>SC Cotton Board</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
</tr>
<tr>
<td>Dow AgroSciences LLC</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
</tr>
<tr>
<td>Various Private Sponsors (245)</td>
</tr>
<tr>
<td>Department of Agriculture</td>
</tr>
<tr>
<td>North Carolina State University</td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

*Plant & Environmental Sciences*
<p>| Name             | Project Description                                                                 | Funding Percentage | Amount          | Project Number |
|------------------|-------------------------------------------------------------------------------------|--------------------|----------------|----------------|----------------|
| Keinath, Anthony P | Evaluating New Fungicides from Syngenta                                             | 100.00%            | $24,200.00      | 2011662        |
|                  | <strong>Sponsor:</strong> Syngenta Crop Protection                                                |                    |                |                |                |
| Keinath, Anthony P | Graduate Student - Powdery Mildew in Watermelon                                      | 100.00%            | $35,529.00      | 2011769        |
|                  | <strong>Sponsor:</strong> Department of Agriculture                                              |                    |                |                |                |
| Kirk, Kendall R  | Enhancing South Carolina Peanut Production through Improved Harvest and Management Practices | 40.00%            | $21,899.20      | 2011877        |
|                  | <strong>Sponsor:</strong> SC Peanut Board                                                        |                    |                |                |                |
| Kutty, Sruthi Narayanan | Evaluation of Virginia and Runner Type Peanut Cultivars, Wild Peanuts, and Experimental Lines for Drought and Heat Tolerance under Field Conditions | 100.00%            | $15,000.00      | 2011878        |
|                  | <strong>Sponsor:</strong> SC Peanut Board                                                        |                    |                |                |                |
| Layton, Patricia A | Internship Program for Fire and Fuels Management (CESU)                             | 100.00%            | $7.00           | 2008577        |
|                  | <strong>Sponsor:</strong> USDI (US DEPARTMENT OF THE INTERIOR)                                   |                    |                |                |                |
| Liu, Haibo       | Developing a Sensor-Based, Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems (pre-doctoral fellowship) | 20.00%             | $18,961.60      | 2011794        |
|                  | <strong>Sponsor:</strong> Department of Agriculture                                              |                    |                |                |                |
| McCarty, Lambert B | Horticulture - SRR                                                                   | 100.00%            | $27,500.00      | 1980314        |
|                  | <strong>Sponsor:</strong> Various Private Sponsors (245)                                          |                    |                |                |                |
| McCarty, Lambert B | Turfgrass Research and Education                                                     | 100.00%            | $77,550.00      | 2300911        |
|                  | <strong>Sponsor:</strong> Various Private Sponsors (245)                                          |                    |                |                |                |
| McCarty, Lambert B | Turfgrass Program                                                                    | 100.00%            | $11,500.00      | 5500411        |</p>
<table>
<thead>
<tr>
<th>Sponsor:</th>
<th>Various Private Sponsors (245)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melgar Jimenez, Juan Carlos</td>
<td>A New Approach for Successful Organic Peach Production in the Southeast</td>
</tr>
<tr>
<td>Sponsor: Organic Farming Research Foundation</td>
<td></td>
</tr>
<tr>
<td>Melgar Jimenez, Juan Carlos</td>
<td>Evaluation of Paper Bags for Pest and Disease Management in Organic Peach Production</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
</tr>
<tr>
<td>Melgar Jimenez, Juan Carlos</td>
<td>Peach and Nectarine Cultivar Evaluation, Website, and Preparations for a New Variety Trial</td>
</tr>
<tr>
<td>Sponsor: SC Peach Council &amp; Promotion Board</td>
<td></td>
</tr>
<tr>
<td>Melgar Jimenez, Juan Carlos</td>
<td>Irrigation Scheduling in Peach Tree Orchards: Using Tree Sensors to Increase Accuracy of Soil Probe Measurements</td>
</tr>
<tr>
<td>Sponsor: SC Peach Council &amp; Promotion Board</td>
<td></td>
</tr>
<tr>
<td>Melgar Jimenez, Juan Carlos</td>
<td>Understanding Light Responses of Blackberry Cultivars Grown in South Carolina for Reducing White Drupelet Disorder</td>
</tr>
<tr>
<td>Sponsor: SC EPSCOR</td>
<td></td>
</tr>
<tr>
<td>Mirzakhani Nafchi, Ali</td>
<td>Real-time, Variable-Depth Tillage for Managing Soil Compaction in Cotton Production</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
<td></td>
</tr>
<tr>
<td>Mirzakhani Nafchi, Ali</td>
<td>Field Testing of the Clemson Electro-Mechanical Controller for Adjusting Pump Stroke On-the-Go</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

| Sponsor: | | |
|-----------------------------|--------------------------------|
| Mirzakhani Nafchi, Ali | A Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems |
| Sponsor: | |

<table>
<thead>
<tr>
<th>Sponsor:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton Incorporated</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Morse, John C</td>
<td>Learning to See, Seeing to Learn - REU Supplement</td>
</tr>
<tr>
<td>Park, Dara Michelle</td>
<td>SRR Account</td>
</tr>
<tr>
<td>Park, Dara Michelle</td>
<td>Developing a Sensor-Based, Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems (pre-doctoral fellowship)</td>
</tr>
<tr>
<td>Park, Dara Michelle</td>
<td>On-Farm Demonstration to Assist Producers with How Soil Sampling Influences Nutrient Management Decisions</td>
</tr>
<tr>
<td>Reay-Jones, Francis Peter Fortn</td>
<td>Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities</td>
</tr>
<tr>
<td>Reay-Jones, Francis Peter Fortn</td>
<td>Impact of Transgenic Bt (Crops on Helicoverpa Zea Ecology and Subsequent Resistance Risk</td>
</tr>
<tr>
<td>Reay-Jones, Francis Peter Fortn</td>
<td>A Novel RNA Interface Based Pesticide to Control Sugarcane Aphid Population in the Southeast US</td>
</tr>
<tr>
<td>Reay-Jones, Francis Peter Fortn</td>
<td>Tobacco Research in South Carolina in Agronomy, Pathology, and Entomology</td>
</tr>
<tr>
<td>Reay-Jones, Francis Peter Fortn</td>
<td>Using Soil Electrical Conductivity and NDVI to Improve Thrips Management in Cotton</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SC Cotton Board</td>
<td>Effect of Variety on Populations of and Injury from Thrips in Cotton uest Year 2</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>Monsanto Research on Transgenic Corn Expressing Bacillus thuringiensis Toxins, 2017</td>
</tr>
<tr>
<td>Monsanto</td>
<td>Effect of Planting Date on Populations of Thrips in Cotton (Year 3 uest Final Year): Data to Validate a Model for Predicting Temporal Susceptibility to Thrips</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>Collaborative Efforts to Manage Insect Pests of Cotton in the Southeast uest 2017</td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Areawide Management of Sugarcane Aphid on Sorghum in the Coastal Plain Region</td>
</tr>
<tr>
<td>Various Private Sponsors (245)</td>
<td>Research Support - SRR</td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>Screening Peach Rootstocks for Adaptability, Productivity, and Tolerance to Armillaria and Bacterial Canker</td>
<td>100.00%</td>
<td>$4,000.00</td>
<td>2011822</td>
</tr>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>Short and Long-term Solutions for Armillaria Root Rot in Prunus</td>
<td>25.00%</td>
<td>$222,052.50</td>
<td>2011936</td>
</tr>
<tr>
<td>Sponsor: Pennsylvania Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reighard, Gregory L</strong></td>
<td>RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars</td>
<td>10.00%</td>
<td>$34,165.40</td>
<td>2020373</td>
</tr>
<tr>
<td><strong>Rustgi, Sachin</strong></td>
<td>A Novel RNA Interface Based Pesticide to Control Sugarcane Aphid Population in the Southeast US</td>
<td>60.00%</td>
<td>$15,895.80</td>
<td>2011711</td>
</tr>
<tr>
<td><strong>Sponsor: Michigan State University</strong></td>
<td><strong>Sponsor: Bayer CropScience AG</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rustgi, Sachin</strong></td>
<td>Sifting Germplasm to Identify Hypoallergenic Peanut Genotypes: Gathering Ammunition for the Future Breeding</td>
<td>80.00%</td>
<td>$8,836.00</td>
<td>2011879</td>
</tr>
<tr>
<td><strong>Sponsor: SC Peanut Board</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rustgi, Sachin</strong></td>
<td>Meiotic Manipulations to Foster Genetic Diversity in the Elite Cotton Germplasm to Meet the Future Breeding Needs</td>
<td>100.00%</td>
<td>$10,000.00</td>
<td>2011951</td>
</tr>
<tr>
<td><strong>Sponsor: Cotton Incorporated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rustgi, Sachin</strong></td>
<td>Turning Perennial Cotton into an Annual: A Novel Strategy to Increase Cotton Fiber Yield by Remobilization of Reserves</td>
<td>60.00%</td>
<td>$6,543.00</td>
<td>2011952</td>
</tr>
<tr>
<td><strong>Sponsor: Cotton Incorporated</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Schmidt-Jeffris, Rebecca Ann</strong></td>
<td>Syngenta Protocol ICV760A3-2017US</td>
<td>100.00%</td>
<td>$9,450.00</td>
<td>2012040</td>
</tr>
<tr>
<td><strong>Sponsor: Syngenta Crop Protection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Schnabel, Guido</strong></td>
<td>Plant and Environmental Sciences Research - SRR Account</td>
<td>100.00%</td>
<td>$75,100.00</td>
<td>1980434</td>
</tr>
<tr>
<td><strong>Sponsor: Various Private Sponsors (245)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Schnabel, Guido</strong></td>
<td>Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities</td>
<td>7.50%</td>
<td>$12,600.00</td>
<td>2010322</td>
</tr>
<tr>
<td><strong>Sponsor: Department of Agriculture</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author, Project Title</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Grant Number</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
<td>--------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, A New Approach for Successful Organic Peach Production in the Southeast</td>
<td>Organic Farming Research Foundation</td>
<td>$7,479.00</td>
<td>2011455</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, Finding Solutions to Pre-harvest Botrytis Infection of Cut Roses</td>
<td>American Floral Endowment</td>
<td>$22,591.00</td>
<td>2011510</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, Improving Strawberry Gray Mold Management through Identification of Ineffective Sprays</td>
<td>Cal Poly Corporation</td>
<td>$34,620.00</td>
<td>2011519</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, Evaluation of Paper Bags for Pest and Disease Management in Organic Peach Production</td>
<td>Department of Agriculture</td>
<td>$249,942.50</td>
<td>2011599</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, Eleven Blackberry Cultivar Variety Trial, and Varietal Specific Susceptibility to Certain Pathogens</td>
<td>North American Raspberry &amp; Blackberry Association</td>
<td>$680.00</td>
<td>2011788</td>
<td></td>
</tr>
<tr>
<td>Schnabel, Guido, Increase User-Friendliness and Usefulness of the MyIPM Smartphone Apps</td>
<td>North American Strawberry Growers Association</td>
<td>$15,000.00</td>
<td>2011789</td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

<table>
<thead>
<tr>
<th>Author, Project Title</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Grant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schnabel, Guido, Mechanizing Root Collar Excavation to Control Armillaria Root Rot in Peaches</td>
<td>SC Peach Council &amp; Promotion Board</td>
<td>$1,500.00</td>
<td>2011819</td>
</tr>
<tr>
<td>Schnabel, Guido, Continued Investigations into Factors Causing Peach Skin Bronzing and Streaking</td>
<td>SC Peach Council &amp; Promotion Board</td>
<td>$5,000.00</td>
<td>2011823</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Funding</td>
<td>Sponsor</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Fungicide Efficacy Trials and Oak Root Rot Research</td>
<td>100.00%</td>
<td>SC Peach Council &amp; Promotion Board</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Development of a Rapid in Vitro Assay for Screening for Armillaria Root Rot Infection and Resistance</td>
<td>33.00%</td>
<td>SC Peach Council &amp; Promotion Board</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Are Copper and Mycoshield Still Working Effectively Against Peach Bacterial Spot?</td>
<td>50.00%</td>
<td>SC Peach Council &amp; Promotion Board</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Location-Specific Resistance Profiles Help Grower Avoid Ineffective Sprays</td>
<td>100.00%</td>
<td>North Carolina Strawberry Association, Inc</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>MyIPM: An Innovative Application for Identification and Management of Small Fruit Diseases and Pests</td>
<td>50.00%</td>
<td>Southern Region Small Fruit Consortium</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Identification of Factors Involved in Peach Skin Streaking</td>
<td>100.00%</td>
<td>University of Georgia</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Short and Long-term Solutions for Armillaria Root Rot in Prunus</td>
<td>20.00%</td>
<td>Pennsylvania Department of Agriculture</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars</td>
<td>10.00%</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>Schnabel, Guido</td>
<td>Strategic Management of Multiple Diseases in Strawberry Nurseries and Production Fields in the Eastern U.S</td>
<td>100.00%</td>
<td>University of Florida (FDP)</td>
</tr>
<tr>
<td>Name</td>
<td>Project Title</td>
<td>Sponsor</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Smith, Nathaniel B</td>
<td>Evaluation of Paper Bags for Pest and Disease Management in Organic Peach Production</td>
<td>Department of Agriculture</td>
<td>25.00%</td>
</tr>
<tr>
<td>Smith, Nathaniel B</td>
<td>South Carolina Farm Management and Benchmarking Project</td>
<td>University of Minnesota</td>
<td>100.00%</td>
</tr>
<tr>
<td>Song, Bo</td>
<td>Promotion of a Sustainable Carbon Market to South Carolina Forest Landowners</td>
<td>Department of Agriculture</td>
<td>30.00%</td>
</tr>
<tr>
<td>Tharayil, Nishanth</td>
<td>Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture</td>
<td>Rutgers, the State University of New Jersey</td>
<td>27.00%</td>
</tr>
<tr>
<td>Tharayil, Nishanth</td>
<td>Investigating the Plant-soil Feedbacks that Maintain the Legacy Effect in Invaded Ecosystems to Formulate Knowledge based Restoration Practices</td>
<td>Department of Agriculture</td>
<td>35.00%</td>
</tr>
</tbody>
</table>

**COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES**

**Plant & Environmental Sciences**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Title</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tharayil, Nishanth</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Thavarajah, Dilrukshi</td>
<td>Biofortification of Lentils (Lens culinaris Medik) for Increased Iron and Zinc Bioavailability</td>
<td>International Center for Agricultural Research in the Dry Areas (ICARDA)</td>
<td>100.00%</td>
<td>$8,000.00</td>
<td>2010777</td>
</tr>
<tr>
<td>Thavarajah, Dilrukshi</td>
<td>Selecting Organic Kale Varieties with Increased Production and Nutritional Quality</td>
<td>SC Dept of Agriculture</td>
<td>100.00%</td>
<td>$34,632.00</td>
<td>2011668</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project Number</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Thavarajah, Dilrukshi</td>
<td>Chickpea as a Source of Healthy Carbohydrates to Combat Obesity and Overweight</td>
<td>American Pulse Association</td>
<td>100.00%</td>
<td>$31,180.00</td>
<td>2011947</td>
</tr>
<tr>
<td>Wang, Hehe</td>
<td>Are Copper and Mycoshield Still Working Effectively Against Peach Bacterial Spot?</td>
<td>SC Peach Council &amp; Promotion Board</td>
<td>50.00%</td>
<td>$2,500.00</td>
<td>2011828</td>
</tr>
<tr>
<td>Wang, Hehe</td>
<td>Using Soil Electrical Conductivity and NDVI to Improve Thrips Management in Cotton</td>
<td>SC Cotton Board</td>
<td>20.00%</td>
<td>$1,863.00</td>
<td>2011860</td>
</tr>
<tr>
<td>Wang, Hehe</td>
<td>Enhancing South Carolina Peanut Production through Improved Harvest and Management Practices</td>
<td>SC Peanut Board</td>
<td>20.00%</td>
<td>$10,949.60</td>
<td>2011877</td>
</tr>
<tr>
<td>Wang, Hehe</td>
<td>Development of a Field-based Detection Tool for Helicoverpa Armigera</td>
<td>SC Peanut Board</td>
<td>95.00%</td>
<td>$8,417.00</td>
<td>2011880</td>
</tr>
<tr>
<td>White, Sarah A</td>
<td>Pairing Vegetative Buffers and Slow Sand Filtration to RemEDIATE Diseases from Irrigation Runoff</td>
<td>SC Peanut Board</td>
<td>100.00%</td>
<td>$24,986.00</td>
<td>2011813</td>
</tr>
<tr>
<td>White, Sarah A</td>
<td>Do pH and Alkalinity of Irrigation Runoff Influence Floating Treatment Wetland Efficacy?</td>
<td>Horticultural Research Institute</td>
<td>100.00%</td>
<td>$13,200.00</td>
<td>2011814</td>
</tr>
<tr>
<td>White, Sarah A</td>
<td>Clean Water R3 - Reduce, Remediate, Recycle: Informed Decision Making to Facilitate Use of Alternative Water Resources and Promote Sustainable Specialty</td>
<td>Department of Agriculture</td>
<td>80.00%</td>
<td>$1,416,901.60</td>
<td>2020386</td>
</tr>
<tr>
<td>White, Sarah A</td>
<td>South Carolina Water Resources Center Program Management</td>
<td>USDI Water Resources Research Institute Annual</td>
<td>20.00%</td>
<td>$18,466.80</td>
<td>2021202</td>
</tr>
</tbody>
</table>
Ye, Rongzhong
Evaluation of Cover Crop on Nutrient Cycling, Soil Quality, and Yield in Peanut Production System in South Carolina
Sponsor: SC Peanut Board
100.00% $14,664.00 2011876

Zehnder, Geoffrey W
Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities
Sponsor: Department of Agriculture
40.00% $67,200.00 2010322

Zehnder, Geoffrey W
South Carolina SARE 2016-2017 Model State Program-Training
Sponsor: University of Georgia
100.00% $22,222.00 2011513

Zehnder, Geoffrey W
South Carolina SARE 2016-2017 Model State Program-Program Assistant
Sponsor: University of Georgia
100.00% $22,222.00 2011514

COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES
Plant & Environmental Sciences
Zehnder, Geoffrey W
Wholesale Success: Building the Capacity of Farmers to Meet Demand for Locally and Sustainability Grown Produce
Sponsor: University of Georgia
100.00% $78,008.00 2011986

Zehnder, Geoffrey W
Moving Regional Food Systems Toward Sustainability: An Adaptive and Interactive Online Course in Local Food System Development for NC, SC, and VA Extension Agents and Providers
Sponsor: North Carolina State University
25.00% $5,946.50 2012063

Total: Plant & Environmental Sciences
$6,814,320.00
TOTAL: COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES
$10,898,288.33

COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES
Construction Science & Management
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Award #:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bausman, Dennis C</td>
<td>Development of a Construction Case Study on Sustainable Construction</td>
<td>AGC Education &amp; Research Foundation</td>
<td>100.00%</td>
<td>$9,000.00</td>
<td>2011939</td>
</tr>
<tr>
<td>Mousavi Rizi, Seyed Ehsan</td>
<td>Academic Research to Support Facilities Guideline Institutes/ASHRAE Standard 170</td>
<td>Affiliated Engineers, Inc</td>
<td>95.00%</td>
<td>$20,900.00</td>
<td>2011816</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Construction Science &amp; Management</strong></td>
<td></td>
<td></td>
<td><strong>$29,900.00</strong></td>
<td></td>
</tr>
<tr>
<td>Holmevik, Jan Rune</td>
<td>Collaborative Research: CICI: Regional: SouthEast SciEntific Cybersecurity for University RESearch (SouthEast SECURE)</td>
<td>National Science Foundation</td>
<td>10.00%</td>
<td>$15,800.40</td>
<td>2011610</td>
</tr>
<tr>
<td></td>
<td><strong>Total: English</strong></td>
<td></td>
<td></td>
<td><strong>$105,716.28</strong></td>
<td></td>
</tr>
<tr>
<td>Howard, Tharon W</td>
<td>Series Editor of the ATTW Series in Technical and Professional Communication</td>
<td>Association of Teachers of Technical Writing (ATTW)</td>
<td>100.00%</td>
<td>$3,000.00</td>
<td>2021949</td>
</tr>
<tr>
<td>Katz, Steven B</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>2.00%</td>
<td>$59,797.98</td>
<td>2011586</td>
</tr>
</tbody>
</table>
| Thomas, Rhondda Robinson | Clemson TIGERS ADVANCE  
Transforming the Institution through Gender Equity, Retention, and Support | National Science Foundation                  | 2.00%      | $27,117.90| 2011602  |
| Burton, Orville Vernon | "Lincoln’s Unfinished Work" Conference                                               | Watson-Brown Foundation, Inc.                | 100.00%    | $17,560.00| 2011718  |
### Landscape Architecture

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nassar, Hala Fouad</td>
<td>Student Assistantship_Graham Kimak Landscape Design_Caroline Donaldson</td>
<td>Graham Kimak Landscape Designs, LLC</td>
<td>$4,708.00</td>
<td>2011472</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nassar, Hala Fouad</td>
<td>Graduate Student Assistantship_The Collins Group, Inc._Paul Medling</td>
<td>The Collins Group, Inc</td>
<td>$6,087.00</td>
<td>2011523</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nassar, Hala Fouad</td>
<td>CU PSA: Red Elm_Zhara Ghazanfari</td>
<td>Red Elm Residential &amp; Landscapes</td>
<td>$9,740.00</td>
<td>2011580</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Padua, Mary G</td>
<td>South Carolina Outdoor Learning Environments</td>
<td>SC DHEC</td>
<td>$36,000.00</td>
<td>2011727</td>
</tr>
</tbody>
</table>

**Total: Landscape Architecture**  $56,535.00

### Languages

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>An, Yanming</td>
<td>Curriculum Development--Chinese Language and Electrical Engineering</td>
<td>American University of Malta</td>
<td>$20,403.20</td>
<td>2011920</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fitzmaurice, Stephen Benjamin</td>
<td>S.C. Educational Interpreter Center</td>
<td>SC Dept of Education</td>
<td>$279,736.00</td>
<td>2011633</td>
</tr>
</tbody>
</table>

**Total: Languages**  $300,139.20

### Performing Arts

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Amount</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hartmann, David J</td>
<td>Brooks Center Marketing and Promotional Plan</td>
<td>$8,000.00</td>
<td>2011637</td>
</tr>
</tbody>
</table>

**Total: Performing Arts**  $8,000.00

---

**Total: History**  $17,560.00
Sponsor: City of Clemson

Total: Performing Arts $8,000.00

**COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES**

**Philosophy & Religion**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perpich,Diane</td>
<td>Clemson TIGERS ADVANCE, Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>National Science Foundation</td>
<td>$27,117.90</td>
<td>2011602</td>
</tr>
</tbody>
</table>

Total: Philosophy & Religion $27,117.90

**Planning, Dev & Preservation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellis,Clifford Donald</td>
<td>CU PSA_City of Greenville_Brennan Williams</td>
<td>City of Greenville</td>
<td>$6,087.00</td>
<td>2011436</td>
</tr>
<tr>
<td>Ellis,Clifford Donald</td>
<td>Graduate Student Assistantship_NeighborWorks Alaska_Nikki Navio</td>
<td>NeighborWorks Alaska</td>
<td>$9,131.00</td>
<td>2011469</td>
</tr>
<tr>
<td>Ellis,Clifford Donald</td>
<td>CU PSA: Jehan Wallace</td>
<td>City of Clemson</td>
<td>$9,131.00</td>
<td>2011497</td>
</tr>
<tr>
<td>Ellis,Clifford Donald</td>
<td>CU PSA: Benjamin Abdo</td>
<td>Greenville County Redevelopment Authority</td>
<td>$6,087.00</td>
<td>2011498</td>
</tr>
<tr>
<td>Ellis,Clifford Donald</td>
<td>CU PSA: Brian Elgort</td>
<td>City of Rock Hill</td>
<td>$6,087.00</td>
<td>2011499</td>
</tr>
<tr>
<td>Name</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Year</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Michael E. McNair</td>
<td>100.00%</td>
<td>$7,305.00</td>
<td>2011500</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Greenville County Planning Commission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Ariel Promislow</td>
<td>100.00%</td>
<td>$6,087.00</td>
<td>2011501</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Anderson County Planning and Development Board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Caroline Richardson</td>
<td>100.00%</td>
<td>$7,305.00</td>
<td>2011502</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Greenville County Planning Commission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Samuel Parsons</td>
<td>100.00%</td>
<td>$6,087.00</td>
<td>2011503</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Laurens County Council</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Stephanie White</td>
<td>100.00%</td>
<td>$6,087.00</td>
<td>2011504</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Integral Human Capital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Cameron Colvin</td>
<td>100.00%</td>
<td>$7,305.00</td>
<td>2011518</td>
</tr>
<tr>
<td></td>
<td>Sponsor: City of Anderson</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Appalachian Council of Government _Junsoo Ahn</td>
<td>100.00%</td>
<td>$6,087.00</td>
<td>2011553</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Appalachian Council of Governments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>CU PSA: Emily Hutchings</td>
<td>100.00%</td>
<td>$6,087.00</td>
<td>2011554</td>
</tr>
<tr>
<td></td>
<td>Sponsor: City of Greenville</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ellis, Clifford Donald</td>
<td>Student Assistantship _Rachael Thompson Panik</td>
<td>100.00%</td>
<td>$3,654.00</td>
<td>2011775</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Toole Design Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Project ID</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>Lauria, Mickey</td>
<td>2016 Doctoral Students; Grant: Tao Guan</td>
<td>Crumbs Engineering, Inc</td>
<td>100.00%</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Morris, Eric A</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>Department of Transportation</td>
<td>11.00%</td>
<td>$154,242.00</td>
</tr>
<tr>
<td>Allison, David J</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.ORG) Learning Lab</td>
<td>National Institutes of Health/DHHS</td>
<td>9.00%</td>
<td>$97,028.01</td>
</tr>
<tr>
<td>Huff, Raymond T</td>
<td>CU PSA: Jian Huang</td>
<td>Novus Architects</td>
<td>100.00%</td>
<td>$3,096.00</td>
</tr>
<tr>
<td>Huff, Raymond T</td>
<td>CU PSA: Russell Buchanan</td>
<td>Rosenblum Coe Architects, Inc.</td>
<td>100.00%</td>
<td>$3,096.00</td>
</tr>
<tr>
<td>Huff, Raymond T</td>
<td>CU PSA: Paul Mosher</td>
<td>Byers Design Group</td>
<td>100.00%</td>
<td>$3,096.00</td>
</tr>
<tr>
<td>Huff, Raymond T</td>
<td>CU PSA: David Herrero</td>
<td>LS3P Associates, LTD</td>
<td>100.00%</td>
<td>$3,096.00</td>
</tr>
<tr>
<td>Huff, Raymond T</td>
<td>CU PSA: Sarah Seigler</td>
<td></td>
<td>100.00%</td>
<td>$3,096.00</td>
</tr>
</tbody>
</table>

**Total: Planning, Dev & Preservation** $251,769.00
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>AJ Architects, LLC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>CU PSA: Daniel Taylor</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011492</td>
</tr>
<tr>
<td>McMillan Pazdan Smith Architecture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>CU PSA: Benjamin Wofford</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011493</td>
</tr>
<tr>
<td>Meadors, Inc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>CU: PSA Amelia Brackman</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011494</td>
</tr>
<tr>
<td>Cummings &amp; McCrady Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>CU PSA: Mike Millon</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011495</td>
</tr>
<tr>
<td>Beau Clowney Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>CU PSA: Rebecca Mercer</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011496</td>
</tr>
<tr>
<td>KSQ Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huffman, Raymond T</td>
<td>Student Assistantship - Qingqing Sun</td>
<td>100.00%</td>
<td>$3,096.00</td>
<td>2011791</td>
</tr>
<tr>
<td>Beau Clowney Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph, Anjali</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD. OR) Learning Lab</td>
<td>53.00%</td>
<td>$571,387.17</td>
<td>2010985</td>
</tr>
<tr>
<td>National Institutes of Health/DHHS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joseph, Anjali</td>
<td>Literature Review on Patient-Provider Communication and the Role of the Built Environment</td>
<td>100.00%</td>
<td>$13,374.00</td>
<td>2011843</td>
</tr>
<tr>
<td>Steelcase Health</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pastre, David A</td>
<td>CropStop Farm Kitchen</td>
<td>100.00%</td>
<td>$7,105.00</td>
<td>2011677</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Project Number</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------</td>
<td>---------</td>
<td>--------</td>
<td>----------------</td>
</tr>
<tr>
<td>College of Charleston Foundation</td>
<td>COLLEGE OF BEHAVIORAL, SOCIAL &amp; HEALTH SCIENCES</td>
<td></td>
<td>$722,950.18</td>
<td></td>
</tr>
<tr>
<td>School of Architecture</td>
<td>TOTAL: COLLEGE OF ARCHITECTURE, ARTS &amp; HUMANITIES</td>
<td></td>
<td>$1,519,687.56</td>
<td></td>
</tr>
<tr>
<td><strong>COLLEGE OF BEHAVIORAL, SOCIAL &amp; HEALTH SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Clinical Ed/Pract &amp; Med Surv Pro</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watt, Paula J</td>
<td>Diabetic Supplies for Uninsured/Under-Insured Patients</td>
<td>SC Free Clinic Association</td>
<td>100.00%</td>
<td>$546.00</td>
</tr>
<tr>
<td>Watt, Paula J</td>
<td>SC HHS Rural Health Extension Project</td>
<td>SC DHHS</td>
<td>100.00%</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Watt, Paula J</td>
<td>Primary Care for the Chronically Ill Uninsured 2016</td>
<td>SC DHHS</td>
<td>100.00%</td>
<td>$16,666.00</td>
</tr>
<tr>
<td>Watt, Paula J</td>
<td>Access to Care 2017</td>
<td>Blue Cross and Blue Shield of South Carolina</td>
<td>100.00%</td>
<td>$56,000.00</td>
</tr>
<tr>
<td>Watt, Paula J</td>
<td>CU Choose Well</td>
<td>New Morning Foundation</td>
<td>70.00%</td>
<td>$40,420.80</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Clinical Ed/Pract &amp; Med Surv Pro</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CU Institute for Parks</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Machlis, Gary Edward</td>
<td>CESU: Man and the Biosphere designation - advising and compliance (Everglades National Park)</td>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>100.00%</td>
<td>$10,000.00</td>
</tr>
</tbody>
</table>
Machlis, Gary Edward  
CESU: Science Advisor to the Director, NPS (Year 4)  
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)  
Total: CU Institute for Parks $109,830.00

Dean-Beh. Social. & Health Sci

Quinn, William H  
Evaluation of the Boys and Girls Clubs of American Teen Ambassadors Programs  
Sponsor: Boys and Girls Clubs of America  
Total: Dean-Beh, Social, & Health Sci $18,315.00

Department of Communication

Boatwright, Brandon Carl  
Social Media Monitoring for Greenville Health System - Year 2  
Sponsor: Greenville Health System (GHS)  
Total: Department of Communication $60,257.90

Mazer Jr, Joseph P  
Social Media Monitoring for Greenville Health System - Year 2  
Sponsor: Greenville Health System (GHS)

Mazer Jr, Joseph P  
Clemson TIGERS ADVANCE  
Transforming the Institution through Gender Equity, Retention, and Support  
Sponsor: National Science Foundation  
Total: MPA Program $1,000.00

Dickes, Lori Ann  
Neonatal Abstinence Syndrome: Analysis of Cost, Safety, and Efficacy of a Palliative Approach to Treating Narcotic-Dependent Newborns (add 5 months)  
Sponsor: Greenville Health System (GHS)

Total: MPA Program $1,000.00

Parks, Recreation, & Tourism Management
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Sponsor</th>
<th>%</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anderson, Denise Marie</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>National Science Foundation</td>
<td>2.00</td>
<td>$27,117.90</td>
<td>2011602</td>
</tr>
<tr>
<td>Arthur-Banning, Skye Gerald</td>
<td>Small Restricted Receipts</td>
<td>Various Private Sponsors (245)</td>
<td>100.00</td>
<td>$3,252.00</td>
<td>1980304</td>
</tr>
<tr>
<td>Arthur-Banning, Skye Gerald</td>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
<td>Veterans Affairs</td>
<td>60.00</td>
<td>$31,200.00</td>
<td>2011656</td>
</tr>
<tr>
<td></td>
<td><strong>COLLEGE OF BEHAVIORAL, SOCIAL &amp; HEALTH SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Parks, Recreation, &amp; Tourism Management</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brookover IV, Robert S</td>
<td>Parks, Recreation, &amp; Tourism - SRR Account</td>
<td>Various Private Sponsors (245)</td>
<td>100.00</td>
<td>$42,250.00</td>
<td>1980599</td>
</tr>
<tr>
<td>Chancellor, Anna-Marie VanPu</td>
<td>SRR Account</td>
<td>Various Private Sponsors (245)</td>
<td>100.00</td>
<td>$10,114.00</td>
<td>1980306</td>
</tr>
<tr>
<td>Chancellor, Anna-Marie VanPu</td>
<td>Person's with Dementia and Family Caregivers Yoga Engagement Program</td>
<td>Alzheimer's Association</td>
<td>100.00</td>
<td>$4,000.00</td>
<td>2012069</td>
</tr>
<tr>
<td>Duffy, Lauren N</td>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
<td>Veterans Affairs</td>
<td>15.00</td>
<td>$7,800.00</td>
<td>2011656</td>
</tr>
<tr>
<td>Duffy, Lauren N</td>
<td>Research and Technical Assistance to Support the Development of Whitewater Paddling and Glamping as Tourism Destination Development Strategies for Great Falls, South Carolina</td>
<td>SC Dept of Natural Resources</td>
<td>42.00</td>
<td>$40,218.78</td>
<td>2011979</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>%</td>
<td>Amount</td>
<td>Award Number</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Anderson, Denise Marie</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>2.00%</td>
<td>$27,117.90</td>
<td>2011602</td>
<td></td>
</tr>
<tr>
<td>Arthur-Banning, Skye Gerald</td>
<td>Small Restricted Receipts</td>
<td>100.00%</td>
<td>$3,252.00</td>
<td>1980304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sponsor: Various Private Sponsors (245)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthur-Banning, Skye Gerald</td>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
<td>60.00%</td>
<td>$31,200.00</td>
<td>2011656</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sponsor: Veterans Affairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES**

**Parks, Recreation, & Tourism Management**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>%</th>
<th>Amount</th>
<th>Award Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brookover IV, Robert S</td>
<td>Parks, Recreation, &amp; Tourism - SRR Account</td>
<td>100.00%</td>
<td>$42,250.00</td>
<td>1980599</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Various Private Sponsors (245)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chancellor, Anna-Marie VanPu</td>
<td>SRR Account</td>
<td>100.00%</td>
<td>$10,114.00</td>
<td>1980306</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Various Private Sponsors (245)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chancellor, Anna-Marie VanPu</td>
<td>Person's with Dementia and Family Caregivers Yoga Engagement Program</td>
<td>100.00%</td>
<td>$4,000.00</td>
<td>2012069</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Alzheimer's Association</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duffy, Lauren N</td>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
<td>15.00%</td>
<td>$7,800.00</td>
<td>2011656</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Veterans Affairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duffy, Lauren N</td>
<td>Research and Technical Assistance to Support the Development of Whitewater Paddling and Glamping as Tourism Destination Development Strategies for Great Falls, South Carolina</td>
<td>42.00%</td>
<td>$40,218.78</td>
<td>2011979</td>
</tr>
<tr>
<td></td>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fernandez, Mariela</td>
<td>Latino Health in Rural Settings: A Systematic Review</td>
<td>100.00%</td>
<td>$49,960.00</td>
<td>2021550</td>
</tr>
<tr>
<td>Sponsor: Johnson (Robert Wood) Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gagnon, Ryan Joseph</td>
<td>Summer Research Study - SRR</td>
<td>100.00%</td>
<td>$13,495.00</td>
<td>1980310</td>
</tr>
<tr>
<td>Sponsor: Various Private Sponsors (245)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallo, Jeffrey Charles</td>
<td>SOCIAL SCIENCE RESEARCH TO SUPPORT THE IMPLEMENTATION OF A VISITOR USE MANAGEMENT STRATEGY FOR COMMERCIALY-GUIDED, BOAT-BASED POLAR BEAR VIEWING AT THE ARCTIC NATIONAL WILDLIFE REFUGE</td>
<td>100.00%</td>
<td>$83,060.00</td>
<td>2011802</td>
</tr>
<tr>
<td>Sponsor: USDI Fish &amp; Wildlife Service</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hallo, Jeffrey Charles</td>
<td>Research and Technical Assistance to Support the Development of Whitewater Paddling and Glamping as Tourism Destination Development Strategies for Great Falls, South Carolina</td>
<td>29.00%</td>
<td>$27,770.11</td>
<td>2011979</td>
</tr>
<tr>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larson, Lincoln R</td>
<td>Youth Perspectives of a High Adventure Camp: Linking Youth Experiences to Engagement with Learning for Life and Exploring Programs</td>
<td>10.00%</td>
<td>$4,335.30</td>
<td>2011479</td>
</tr>
<tr>
<td>Sponsor: Boy Scouts of America</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norman, William C</td>
<td>Research and Technical Assistance to Support the Development of Whitewater Paddling and Glamping as Tourism Destination Development Strategies for Great Falls, South Carolina</td>
<td>29.00%</td>
<td>$27,770.11</td>
<td>2011979</td>
</tr>
<tr>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norman, William C</td>
<td>Impacts of Special Hunting Clinics on the Recruitment and Retention of Youth and Young Adults Hunters in South Carolina - Year 2</td>
<td>100.00%</td>
<td>$13,250.00</td>
<td>2021438</td>
</tr>
<tr>
<td>Sponsor: SC Dept of Natural Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powell, Robert Baxter</td>
<td>Methods development for systematic investigation of factors driving outcomes in informal STEM environmental education programs</td>
<td>100.00%</td>
<td>$299,984.00</td>
<td>2011556</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powell, Robert Baxter</td>
<td>Identifying the drivers of success in educational programs at nature centers and National Parks in the United States</td>
<td>95.00%</td>
<td>$213,294.95</td>
<td>2011683</td>
</tr>
<tr>
<td>Sponsor: Virginia Polytechnic Institute and State University</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Funding Details</td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>Townsend, Jasmine Nutter</td>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
<td>Veterans Affairs</td>
<td>10.00% $5,200.00</td>
<td>2011656</td>
</tr>
<tr>
<td>Townsend, Jasmine Nutter</td>
<td>Adaptive Sport for Social Change (ASSC): An international sports project for individuals with disabilities</td>
<td>National Ability Center</td>
<td>100.00% $13,825.00</td>
<td>2011975</td>
</tr>
<tr>
<td>White, David Lawrence</td>
<td>Hydrological Data Visualization in Support of the State Water Plan</td>
<td>SC Dept of Natural Resources</td>
<td>100.00% $7,493.00</td>
<td>2011440</td>
</tr>
<tr>
<td><strong>Total: Parks, Recreation, &amp; Tourism Management</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>$925,390.15</strong></td>
</tr>
</tbody>
</table>

**Psychology**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Funding Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Britt Jr, Thomas W.</td>
<td>Organizational Justice Training for Supervisors</td>
<td>Leidos, Inc.</td>
<td>100.00% $276,698.00</td>
</tr>
<tr>
<td>Britt Jr, Thomas W.</td>
<td>Rocky Mountain Center for Total Worker Health</td>
<td>University of Colorado Denver</td>
<td>30.00% $5,515.20</td>
</tr>
<tr>
<td>McCubbin, James A</td>
<td>Academy of Behavioral Medicine Research Annual Conference</td>
<td>National Institutes of Health/DHHS</td>
<td>100.00% $15,580.00</td>
</tr>
<tr>
<td>Moore, D Dewayne</td>
<td>Identifying the drivers of success in educational programs at nature centers and National Parks in the United States</td>
<td>Virginia Polytechnic Institute and State University</td>
<td>5.00% $11,226.05</td>
</tr>
<tr>
<td>Muth, Eric R.</td>
<td>Using Context to Validate and Improve Wrist-Tracking Measures of Eating Activity</td>
<td>National Institutes of Health/DHHS</td>
<td>50.00% $252,542.00</td>
</tr>
<tr>
<td>Porter, Marissa Leigh Shuffler</td>
<td>Leadership-Followership: Moving Beyond Traditional Leadership to Build Highly Functioning</td>
<td></td>
<td>100.00% $14,000.00</td>
</tr>
</tbody>
</table>
Autonomous Teams  
Sponsor: University of Central Florida

**COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES**

**Psychology**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Percent</th>
<th>Funding</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porter, Marissa Leigh Shaffer</td>
<td>CAREER: Detecting Patterned Profiles for Functional and Dysfunctional Teamwork</td>
<td>100.00%</td>
<td>$93,388.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Porter, Marissa Leigh Shaffer</td>
<td>Clemson University/GHS Embedded Postdoctoral Fellow: Leadership Development</td>
<td>100.00%</td>
<td>$60,000.00</td>
<td>Greenville Health System (GHS)</td>
</tr>
</tbody>
</table>
| Rosopa, Patrick J          | Clemson TIGERS ADVANCE  
Transforming the Institution through Gender Equity, Retention, and Support       | 16.00%  | $216,943.20 | National Science Foundation             |
| Sinclair, Robert Raymond   | Rocky Mountain Center for Total Worker Health                                        | 70.00%  | $12,868.80  | University of Colorado Denver           |
| Switzer III, Fred S        | NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an       | 6.00%   | $179,393.94 | National Science Foundation             |
|                            | Interdisciplinary, Venture-based Education (PROACTIVE)                              |         |           |                                         |
| Switzer III, Fred S        | CRISP Type I: Data-driven Real-time Simulation for Adaptive Control of Interdependent | 18.00%  | $89,976.60  | National Science Foundation             |
|                            | Infrastructure Systems                                                              |         |           |                                         |
| Switzer III, Fred S        | Objective Psycho-vibratory Assessment of Vehicle Comfort                            | 50.00%  | $66,658.00  | Michelin Corporation                    |

**Total: Psychology**  
$1,294,789.79
Public Health Sciences

Chen, Liwei
Reducing Disparities in Birth Outcomes: A Randomized Controlled Trial on Centering Pregnancy
Sponsor: National Institutes of Health/DHHS
90.00% $529,746.30 2010914

Chen, Liwei
Neonatal Abstinence Syndrome: Analysis of Cost, Safety, and Efficacy of a Palliative Approach to Treating Narcotic-Dependent Newborns (add 5 months)
Sponsor: Greenville Health System (GHS)
20.00% $1,000.00 2020176

Chen, Liwei
Enhancing mHealth Technology in the PCMH to Activate Chronic Patients
Sponsor: US ARMY
12.25% $65,387.68 2020893

Dye, Cheryl Jo
Subaward for Accountable Communities and Medical Neighborhoods
Sponsor: Greenville Health System (GHS)
25.00% $7,599.25 2010693

Dye, Cheryl Jo
GHS Memory Health Program Evaluation
Sponsor: Greenville Health System (GHS)
100.00% $10,000.00 2010706

Dye, Cheryl Jo
Enhancing mHealth Technology in the PCMH to Activate Chronic Patients
Sponsor: US ARMY
12.25% $65,387.68 2020893

Gimbel, Ronald W
Usability Assessment of a Patient-centered Mobile Health Application (iHeartU) for Self-management of Heart Failure
Sponsor: Greenville Health System (GHS)
10.00% $2,000.00 2011915

Gimbel, Ronald W
Reducing variation of radiologist measurement of lung cancer and hepatic metastasis lesions presented in CT scan images through a physician-driven clinical decision support tool
Sponsor: Greenville Health System (GHS)
100.00% $20,000.00 2011957

COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Award %</th>
<th>Amount</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gimbel, Ronald W</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>24.70%</td>
<td>$131,842.92</td>
<td>2020893</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> US ARMY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Griffin, Sarah F</td>
<td>Farm to Institution Specialty Crop Block Grant</td>
<td>100.00%</td>
<td>$2,682.00</td>
<td>2011742</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> University of South Carolina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Griffin, Sarah F</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>9.90%</td>
<td>$52,843.92</td>
<td>2020893</td>
</tr>
<tr>
<td>Kemper, Karen A</td>
<td>Monaview Magic Initiative</td>
<td>100.00%</td>
<td>$13,633.00</td>
<td>2011790</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Monaview Elementary School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mayo, Rachel M</td>
<td>Neonatal Abstinence Syndrome: Analysis of Cost, Safety, and Efficacy of a Palliative</td>
<td>40.00%</td>
<td>$2,000.00</td>
<td>2020176</td>
</tr>
<tr>
<td></td>
<td>to Treating Narcotic-Dependent Newborns (add 5 months)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Greenville Health System (GHS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mayo, Rachel M</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>6.20%</td>
<td>$33,094.17</td>
<td>2020893</td>
</tr>
<tr>
<td>Sherrill, Windsor Westbrook</td>
<td>Subaward for Accountable Communities and Medical Neighborhoods</td>
<td>25.00%</td>
<td>$7,599.25</td>
<td>2010693</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Greenville Health System (GHS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sherrill, Windsor Westbrook</td>
<td>Embedding of Clemson University Faculty in Greenville Health System Clinical Departments</td>
<td>100.00%</td>
<td>-$41,072.00</td>
<td>2011029</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Greenville Health System (GHS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sherrill, Windsor Westbrook</td>
<td>Academic Research to Support Facilities Guideline Institutes/ASHRAE Standard 170</td>
<td>5.00%</td>
<td>$1,100.00</td>
<td>2011816</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Affiliated Engineers, Inc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Percent</td>
<td>Amount</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>---------</td>
<td>------------</td>
</tr>
<tr>
<td>Sherrill, Windsor</td>
<td>Neonatal Abstinence Syndrome: Analysis of Cost, Safety, and Efficacy of a Palliative Approach to Treating Narcotic-Dependent Newborns (add 5 months)</td>
<td>Greenville Health System (GHS)</td>
<td>20.00%</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Sherrill, Windsor</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>US ARMY</td>
<td>6.20%</td>
<td>$33,094.17</td>
</tr>
<tr>
<td>Shi, Lu</td>
<td>Forecasting the Population Health Burden of Mental Health Disorders and Scenarios for Prevention and Treatment in Los Angeles County</td>
<td>University of California, Los Angeles</td>
<td>100.00%</td>
<td>$13,200.00</td>
</tr>
<tr>
<td>Shi, Lu</td>
<td>Does Robotic-assisted Surgery Improve the Outcomes for Radical Prostatectomy Patients in China?</td>
<td>Intuitive Surgical</td>
<td>100.00%</td>
<td>$42,817.00</td>
</tr>
<tr>
<td>Shi, Lu</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>US ARMY</td>
<td>6.20%</td>
<td>$33,094.17</td>
</tr>
<tr>
<td>Truong, Khoa Dang</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>US ARMY</td>
<td>6.20%</td>
<td>$33,094.17</td>
</tr>
<tr>
<td>Williams, Joel Edward</td>
<td>CU Choose Well</td>
<td>New Morning Foundation</td>
<td>10.00%</td>
<td>$5,774.40</td>
</tr>
</tbody>
</table>

**COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES**

**Public Health Sciences**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Sponsor</th>
<th>Percent</th>
<th>Amount</th>
<th>Grant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Williams, Joel Edward</td>
<td>Usability Assessment of a Patient-centered Mobile Health Application (iHeartU) for Self-management of Heart Failure</td>
<td>Greenville Health System (GHS)</td>
<td>10.00%</td>
<td>$2,000.00</td>
<td>2011915</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Sponsorship ID</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>-------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Williams, Joel Edward</td>
<td>CU/GHS Graduate Assistantship Department of Center for Integrative Oncology and Survivorship Cancer Institute</td>
<td>Greenville Health System (GHS)</td>
<td>100.00%</td>
<td>$29,022.00</td>
<td>2011999</td>
</tr>
<tr>
<td>Williams, Joel Edward</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>US ARMY</td>
<td>9.90%</td>
<td>$52,843.92</td>
<td>2020893</td>
</tr>
<tr>
<td>Williams, Joel Edward</td>
<td>CU/GHS Graduate Assistantship Department of Center for Integrative Oncology and Survivorship Cancer Institute</td>
<td>Greenville Health System (GHS)</td>
<td>100.00%</td>
<td>$3,500.00</td>
<td>2021590</td>
</tr>
<tr>
<td>Zhang, Lingling</td>
<td>Quality Variation in Hospital Emergency Medical Care (EMC) and Impact of Quality Disclosure on Improvements of EMC</td>
<td>China Medical Board</td>
<td>100.00%</td>
<td>$12,600.00</td>
<td>2011411</td>
</tr>
<tr>
<td>Zhang, Lingling</td>
<td>Usability Assessment of a Patient-centered Mobile Health Application (iHeartU) for Self-management of Heart Failure</td>
<td>Greenville Health System (GHS)</td>
<td>50.00%</td>
<td>$10,000.00</td>
<td>2011915</td>
</tr>
<tr>
<td>Zhang, Lingling</td>
<td>Enhancing mHealth Technology in the PCMH to Activate Chronic Patients</td>
<td>US ARMY</td>
<td>6.20%</td>
<td>$33,094.17</td>
<td>2020893</td>
</tr>
</tbody>
</table>

Total: Public Health Sciences $1,189,978.20

School of Nursing

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Sponsorship ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Davis, Stephanie Clark</td>
<td>CVS Nurse Practitioner Scholarships</td>
<td>CVS Health Foundation</td>
<td>33.34%</td>
<td>$1,667.00</td>
<td>2011777</td>
</tr>
<tr>
<td>DeLuca, Jane Marie</td>
<td>Clinical Research Initiatives, the Greenwood Genetic Center</td>
<td>Greenwood Genetics Center</td>
<td>100.00%</td>
<td>$12,178.00</td>
<td>2011540</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Match Percent</td>
<td>Amount</td>
<td>Award Number</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td>----------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>DeLuca, Jane Marie</td>
<td>Clinical Research Initiatives, the Greenwood Genetic Center</td>
<td>100.00%</td>
<td>$24,355.00</td>
<td>2011755</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: Greenwood Genetics Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasolino, Tracy King</td>
<td>Advancing Healthcare Research &amp; Evidence Based Practice through Academic-Health System Collaboration</td>
<td>100.00%</td>
<td>$28,583.00</td>
<td>2011589</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: St. Francis Health System</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miller, Lisa B</td>
<td>CU Choose Well</td>
<td>10.00%</td>
<td>$5,774.40</td>
<td>2011897</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: New Morning Foundation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parker, Veronica G</td>
<td>CVS Nurse Practitioner Scholarships</td>
<td>33.33%</td>
<td>$1,666.50</td>
<td>2011777</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: CVS Health Foundation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weisel, Margaret A</td>
<td>CVS Nurse Practitioner Scholarships</td>
<td>33.33%</td>
<td>$1,666.50</td>
<td>2011777</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: CVS Health Foundation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total: School of Nursing</strong></td>
<td></td>
<td>$75,890.40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sociology and Anthropology**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Match Percent</th>
<th>Amount</th>
<th>Award Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobley, F Catherine</td>
<td>Collaborative Research: Military Veteran Students' Pathways in Engineering Education</td>
<td>100.00%</td>
<td>$25,743.00</td>
<td>2010324</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: University of San Diego</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobley, F Catherine</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>2.00%</td>
<td>$27,117.90</td>
<td>2011602</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor: National Science Foundation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobley, F Catherine</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
</tbody>
</table>
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Whithead, Andrew L
Continued Support for Association of Religion Data Archives Project

Sponsor: Pennsylvania State University

100.00% $40,040.00 2012077

Winslow, Sarah Evelyn
Clemson TIGERS ADVANCE
Transforming the Institution through Gender Equity, Retention, and Support

Sponsor: National Science Foundation

16.00% $216,943.20 2011602

Total: Sociology and Anthropology $389,469.10

Strom Thurmond Institute

Allen, Jeffery S
Program Management for the South Carolina Water Resources Center

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)

50.00% $2,344.00 2098383

Carey, Robert T
Economic Impact Analysis of Lower Savannah

Sponsor: US Army Corp of Engineers

50.00% $20,000.00 2011629

COLLEGE OF BEHAVIORAL, SOCIAL & HEALTH SCIENCES

Strom Thurmond Institute

Saltzman, Ellen W
Evaluation of the SC Education Finance Act's (EFA) Base Student Cost for the State Department of Education

Sponsor: SC Dept of Education

100.00% $25,000.00 2011670

Total: Strom Thurmond Institute $47,344.00

Youth Development Programs

Bowers, Edmond Patrick
SRR Account

100.00% $6,639.00 1980619
<table>
<thead>
<tr>
<th>Sponsor: Various Private Sponsors (245)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowers, Edmond Patrick</td>
</tr>
<tr>
<td>Youth Perspectives of a High Adventure Camp: Linking Youth Experiences to Engagement with Learning for Life and Exploring Programs</td>
</tr>
<tr>
<td>Sponsor: Boy Scouts of America</td>
</tr>
<tr>
<td>90.00%</td>
</tr>
<tr>
<td>$39,017.70</td>
</tr>
<tr>
<td>2011479</td>
</tr>
<tr>
<td>Bowers, Edmond Patrick</td>
</tr>
<tr>
<td>Evaluation of the Boys and Girls Clubs of American Teen Ambassadors Programs</td>
</tr>
<tr>
<td>Sponsor: Boys and Girls Clubs of America</td>
</tr>
<tr>
<td>33.00%</td>
</tr>
<tr>
<td>$18,315.00</td>
</tr>
<tr>
<td>2011601</td>
</tr>
<tr>
<td>Garst, Barry A</td>
</tr>
<tr>
<td>SRR Account</td>
</tr>
<tr>
<td>Sponsor: Various Private Sponsors (245)</td>
</tr>
<tr>
<td>100.00%</td>
</tr>
<tr>
<td>$17,084.00</td>
</tr>
<tr>
<td>1980622</td>
</tr>
<tr>
<td>Garst, Barry A</td>
</tr>
<tr>
<td>Evaluation of the Boys and Girls Clubs of American Teen Ambassadors Programs</td>
</tr>
<tr>
<td>Sponsor: Boys and Girls Clubs of America</td>
</tr>
<tr>
<td>34.00%</td>
</tr>
<tr>
<td>$18,870.00</td>
</tr>
<tr>
<td>2011601</td>
</tr>
<tr>
<td>Garst, Barry A</td>
</tr>
<tr>
<td>Veteran Affairs Adaptive Sports Grant Program: Paralympic Soccer Club Program Initiative</td>
</tr>
<tr>
<td>Sponsor: Veterans Affairs</td>
</tr>
<tr>
<td>15.00%</td>
</tr>
<tr>
<td>$7,800.00</td>
</tr>
<tr>
<td>2011656</td>
</tr>
<tr>
<td>Quinn, William H</td>
</tr>
<tr>
<td>SRR Account</td>
</tr>
<tr>
<td>Sponsor: Various Private Sponsors (245)</td>
</tr>
<tr>
<td>100.00%</td>
</tr>
<tr>
<td>$5,000.00</td>
</tr>
<tr>
<td>1980309</td>
</tr>
</tbody>
</table>

**Total: Youth Development Programs**

| $112,725.70 |

**Youth, Fmly & Comm Studies**

<table>
<thead>
<tr>
<th>Sponsor: National Science Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small, Mark A</td>
</tr>
<tr>
<td>Clemson TIGERS ADVANCE</td>
</tr>
<tr>
<td>Transforming the Institution through Gender Equity, Retention, and Support</td>
</tr>
<tr>
<td>8.00%</td>
</tr>
<tr>
<td>$108,471.60</td>
</tr>
<tr>
<td>2011602</td>
</tr>
<tr>
<td>Small, Mark A</td>
</tr>
<tr>
<td>Global Alliance on Behavioral Health and Social Justice for Graduate Student Support</td>
</tr>
<tr>
<td>Sponsor: American Orthopsychiatric Association</td>
</tr>
<tr>
<td>100.00%</td>
</tr>
<tr>
<td>$17,436.00</td>
</tr>
<tr>
<td>2011639</td>
</tr>
</tbody>
</table>
## College of Behavioral, Social & Health Sciences

### College of Business

#### Economics

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simon, Curtis J</td>
<td>Dissertation Support</td>
<td>Charles G. Koch Charitable Foundation, The</td>
<td>$5,000.00</td>
<td>2011310</td>
</tr>
<tr>
<td>Tamura, Robert F</td>
<td>Abir Mandal Dissertation Award</td>
<td>Charles G. Koch Charitable Foundation, The</td>
<td>$5,000.00</td>
<td>2011384</td>
</tr>
<tr>
<td>Warren, Patrick L</td>
<td>Jordan Adamson Dissertation Award</td>
<td>Charles G. Koch Charitable Foundation, The</td>
<td>$5,000.00</td>
<td>2011562</td>
</tr>
</tbody>
</table>

**Total: Economics** $15,000.00

#### Management

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrand, Yann</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.OR) Learning Lab</td>
<td>National Institutes of Health/DHHS</td>
<td>$64,685.34</td>
<td>2010985</td>
</tr>
<tr>
<td>Fredendall, Lawrence D</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.OR) Learning Lab</td>
<td>National Institutes of Health/DHHS</td>
<td>$64,685.34</td>
<td>2010985</td>
</tr>
<tr>
<td>Thatcher, Jason B</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>$59,797.98</td>
<td>2011586</td>
</tr>
<tr>
<td>Zagenczyk Jr, Thomas Joseph</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>$179,393.94</td>
<td>2011586</td>
</tr>
</tbody>
</table>
Interdisciplinary, Venture-based Education (PROACTIVE)
Sponsor: National Science Foundation

Zagenczyk Jr, Thomas Joseph
Clemson TIGERS ADVANCE
Transforming the Institution through Gender Equity, Retention, and Support
Sponsor: National Science Foundation

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Science Foundation</td>
<td>$216,943.20</td>
<td>16.00%</td>
</tr>
</tbody>
</table>

Total: Management $585,505.80

Small Business Development Center

Burroughs, Jill K
Small Business Development Center - Operating Grant (State)
Sponsor: University of South Carolina

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of South Carolina</td>
<td>$216,141.00</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Burroughs, Jill K
Small Business Development Center - Operating Grant (Federal)
Sponsor: University of South Carolina

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of South Carolina</td>
<td>$363,086.00</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Total: Small Business Development Center $579,227.00

TOTAL: COLLEGE OF BUSINESS $1,179,732.80

COLLEGE OF EDUCATION

Ed & Org Leadership Dev

Knoepfel, Robert C
Clemson University/Greenville Health System Student Affairs & Pipeline Programs - Graduate Assistantship
Sponsor: Greenville Health System (GHS)

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenville Health System (GHS)</td>
<td>$120,591.00</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Knoepfel, Robert C
Clemson University/Greenville Health System Student Affairs & Pipeline Programs - Graduate Assistantship
Sponsor: Greenville Health System (GHS)

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greenville Health System (GHS)</td>
<td>$14,000.00</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Marion, Russell A
IUSE: Understanding and Propagating the Essence of Successful Computing Education Projects

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$8,256.00</td>
<td>20.00%</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marion, Russell A</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td></td>
</tr>
<tr>
<td>6.00%</td>
<td>$179,393.94</td>
<td>2011586</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sims, Cynthia M</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td></td>
</tr>
<tr>
<td>2.00%</td>
<td>$27,117.90</td>
<td>2011602</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total: Ed &amp; Org Leadership Dev</strong></td>
<td>$349,511.84</td>
<td></td>
</tr>
<tr>
<td>Education &amp; Human Dev</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bates, Celeste Compton Bomely</td>
<td>Improving Literacy Outcomes for Beginning Readers with Disabilities</td>
<td></td>
</tr>
<tr>
<td>100.00%</td>
<td>$242,385.00</td>
<td>2010723</td>
</tr>
<tr>
<td>Sponsor: Ohio State University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bates, Celeste Compton Bomely</td>
<td>Reading Recovery and Early Literacy Training Center for South Carolina</td>
<td></td>
</tr>
<tr>
<td>100.00%</td>
<td>$596,208.00</td>
<td>2011326</td>
</tr>
<tr>
<td>Sponsor: SC Dept of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyer, David Matthew</td>
<td>Energize: An Interactive Evaluation Tool for Engaging the General Public with Energy Decision Making</td>
<td></td>
</tr>
<tr>
<td>22.00%</td>
<td>$70,233.90</td>
<td>2011617</td>
</tr>
<tr>
<td>Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hodge, Martha J</td>
<td>Project Exemplary Personnel for Education, Research, and Teaching in Special Education (EXPERTISE)</td>
<td></td>
</tr>
<tr>
<td>33.33%</td>
<td>$82,466.42</td>
<td>2010202</td>
</tr>
<tr>
<td>Sponsor: Office of Special Education &amp; Rehabilitative Services/Department of Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jamil, Faiza Marghoob</td>
<td>Jasper County 4K Enhancement Project</td>
<td></td>
</tr>
<tr>
<td>10.00%</td>
<td>$6,530.40</td>
<td>2011431</td>
</tr>
<tr>
<td>Sponsor: Jasper County School District</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jamil, Faiza Marghoob</td>
<td>Building Research Capacity for STEM Faculty Development</td>
<td></td>
</tr>
<tr>
<td>25.00%</td>
<td>$24,996.75</td>
<td>2011525</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Amount</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>i3 CRWP Scale Up Advanced Institute 2017-2018</td>
<td>100.00%</td>
</tr>
<tr>
<td>National Writing Project Corporation</td>
<td>2017-2018 NWP CRWP-SEED Professional Development in a High-Need Middle or High School</td>
<td>100.00%</td>
</tr>
<tr>
<td>National Writing Project Corporation</td>
<td>2017-2018 NWP SEED Invitational Leadership Institute</td>
<td>100.00%</td>
</tr>
<tr>
<td>National Writing Project Corporation</td>
<td>Project Exemplary Personnel for Education, Research, and Teaching in Special Education (ExPERTISE)</td>
<td>33.33%</td>
</tr>
<tr>
<td>Office of Special Education &amp; Rehabilitative Services/Department of Education</td>
<td>An Examination of RAMP and Student Outcomes in Greenville County Elementary Schools</td>
<td>100.00%</td>
</tr>
<tr>
<td>American School Counselor Association</td>
<td>A Deeper Look at Deeper Learning: Evidence from Descriptive and Multilevel Explanatory Item Response Theory Models</td>
<td>100.00%</td>
</tr>
<tr>
<td>American Educational Research Association</td>
<td>Project Exemplary Personnel for Education, Research, and Teaching in Special Education (ExPERTISE)</td>
<td>33.34%</td>
</tr>
<tr>
<td>Name</td>
<td>Project Title</td>
<td>Sponsor</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Stecker, Pamela M</td>
<td>SC CREATE</td>
<td>SC Dept of Education</td>
</tr>
<tr>
<td>Wilder, Phillip M</td>
<td>Exploring the Mathematics of Genetics</td>
<td>SC Commission on Higher Education</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Education &amp; Human Dev</strong></td>
<td></td>
</tr>
<tr>
<td>Che, Stacy Megan</td>
<td>IUSE: Understanding and Propagating the Essence of Successful Computing Education Projects</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Cook, Michelle P</td>
<td>IUSE: Understanding and Propagating the Essence of Successful Computing Education Projects</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>Out of School Time Academic Interventions for Elementary Level Students-Year 2 (Pickens County-Chastain Rd.)</td>
<td>SC Dept of Education</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>GoalPOST VI - Goal oriented performance in out of school time - Spearman Elementary and West Pelzer Elementary</td>
<td>SC Dept of Education</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>Out of School Time Teaching and Learning Development - Year 3 Cedar Grove (5 sites)</td>
<td>SC Dept of Education</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>Curriculum Development and Design</td>
<td>Greenville Health System (GHS)</td>
</tr>
</tbody>
</table>

**COLLEGE OF EDUCATION**
<table>
<thead>
<tr>
<th>Name</th>
<th>Program/Project</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fleming, David S</td>
<td>Bridge Program Anderson District 4</td>
<td>SC Dept of Education</td>
<td>100.00%</td>
<td>$76,155.00</td>
<td>2012008</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>Bridge Program - Anderson District 1</td>
<td>SC Dept of Education</td>
<td>100.00%</td>
<td>$47,836.00</td>
<td>2012009</td>
</tr>
<tr>
<td>Fleming, David S</td>
<td>Bridge Program-Pickens County</td>
<td>SC Dept of Education</td>
<td>100.00%</td>
<td>$48,000.00</td>
<td>2012010</td>
</tr>
<tr>
<td>Hall, Anna Henson</td>
<td>Clemson APSI I</td>
<td>SC Dept of Education</td>
<td>100.00%</td>
<td>$129,416.00</td>
<td>2011902</td>
</tr>
<tr>
<td>Linder, Sandra Mammano</td>
<td>Building Research Capacity for STEM Faculty Development</td>
<td>National Science Foundation</td>
<td>25.00%</td>
<td>$24,996.75</td>
<td>2011525</td>
</tr>
<tr>
<td>Linder, Sandra Mammano</td>
<td>Education Quality Grants Evaluation</td>
<td>University of South Carolina</td>
<td>100.00%</td>
<td>$34,916.00</td>
<td>2011666</td>
</tr>
<tr>
<td>Millar, Heber W</td>
<td>CERRA, Teacher Cadet Program 2016</td>
<td>Winthrop University</td>
<td>100.00%</td>
<td>$283.00</td>
<td>2004029</td>
</tr>
<tr>
<td>Schumpert, Jennifer Weatherford</td>
<td>Jasper County 4K Enhancement Project</td>
<td>Jasper County School District</td>
<td>10.00%</td>
<td>$6,530.40</td>
<td>2011431</td>
</tr>
<tr>
<td>Sinwell, Nicole Alaine Banniste</td>
<td>Exploring the Mathematics of Genetics</td>
<td>SC Commission on Higher Education</td>
<td>33.40%</td>
<td>$57,534.17</td>
<td>2011776</td>
</tr>
</tbody>
</table>
Stegelin, Dolores Ann
Analysis of Assets and GAPs in Resources Supporting School Readiness and Optimal Child Development in Rural Counties in South Carolina: A Study of Barnwell, Bamberg, and Williamsburg Counties
Sponsor: Various Private Sponsors
100.00% $5,000.00 2006056

Stegelin, Dolores Ann
Jasper County 4K Enhancement Project
Sponsor: Jasper County School District
80.00% $52,243.20 2011431

Total: Teaching & Learning
TOTAL: COLLEGE OF EDUCATION
$1,035,081.52 $2,774,422.33

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Bioengineering

Alexis, Frank
Modified Natural Materials for Rendering Applications
Sponsor: Fats and Proteins Research Foundation, Inc.
50.00% $38,500.00 2011943

Anker, Jeffrey Nathan
Detecting and Monitoring Implant Infection with X-ray Excited Luminescence Chemical Imaging (XELCI)
Sponsor: National Institutes of Health/DHHS
10.00% $30,631.10 2011457

Booth, Brian William
Incorporation of the Anti-Cancer Agent Tannic Acid into Biomaterials used for Breast Reconstruction
Sponsor: Dabo’s All In Team Foundation
100.00% $60,000.00 2011834

Champaigne, Kevin D
Creatine: a novel modulator of GABA inhibitory synapses
Sponsor: National Institutes of Health/DHHS
25.00% $18,750.00 2011439

Champaigne, Kevin D
Role of Mitochondrial Dysfunction in the Etiology of SRS
Sponsor: Greenwood Genetics Center
100.00% $13,484.00 2011873
Dean, Delphine  
CAREER: Hierarchical Mechanical Models of Cell Constructs  
100.00%  
$84,798.00  
2009577  
Sponsor: National Science Foundation

Dean, Delphine  
Renewal REU Site: Interfaces and Surfaces  
10.50%  
$11,550.00  
2010481  
Sponsor: National Science Foundation

Dean, Delphine  
Impact of Integrated HIV/NCD Screening on HIV Testing Uptake and Engagement in HIV Care: an RCT in Kisarawe, Tanzania  
50.00%  
$23,574.50  
2011724  
Sponsor: Medical University of SC (MUSC)

Desjardins, John D  
Undergraduate Education and Device Innovation Through Clinical and Translational Partnerships in Biomedical Capstone Design  
70.00%  
$29,862.00  
2010091  
Sponsor: National Institutes of Health/DHHS

Desjardins, John D  
Developing a Luminescent Tension-indicating Orthopedic Screw  
50.00%  
$87,167.50  
2010993  
Sponsor: National Institutes of Health/DHHS

Desjardins, John D  
Detecting and Monitoring Implant Infection with X-ray Excited Luminescence Chemical Imaging (XELCI)  
20.00%  
$61,262.20  
2011457  
Sponsor: National Institutes of Health/DHHS

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Bioengineering

Desjardins, John D  
Impact of Integrated HIV/NCD Screening on HIV Testing Uptake and Engagement in HIV Care: an RCT in Kisarawe, Tanzania  
50.00%  
$23,574.50  
2011724  
Sponsor: Medical University of SC (MUSC)

Desjardins, John D  
South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT)  
5.00%  
$111,005.30  
2097563  
Sponsor: National Institutes of Health/DHHS
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gara, Michael James</td>
<td>PFI: AIR-TT: Translation of Multimodal Membrane Adsorbers for Protein Purifications</td>
<td>National Science Foundation</td>
<td>20.00%</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>Harcum, Sarah W</td>
<td>Phase I I/UCRC Clemson University Site: Advanced Mammalian Biomanufacturing Innovation Center (AMBHC)</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$150,000.00</td>
</tr>
<tr>
<td>Harcum, Sarah W</td>
<td>PFI: AIR - TT: Microwave flow cytometer: monitor yeast cell growth and microbial contamination in fermentation</td>
<td>National Science Foundation</td>
<td>25.00%</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Harman, Melinda K</td>
<td>Design Optimization of the Veress Needle</td>
<td>Carolina HealthCare System</td>
<td>100.00%</td>
<td>$40,283.00</td>
</tr>
<tr>
<td>Harman, Melinda K</td>
<td>Assessment of Hydrogel Tissue Adhesives Using in Vitro Simulation of Abdominal Distention</td>
<td>MedUSim Solutions, LLC</td>
<td>100.00%</td>
<td>$8,250.00</td>
</tr>
<tr>
<td>Laberge, Martine</td>
<td>South Carolina IDeA Network of Biomedical Research Excellence (SC INBRE)</td>
<td>University of South Carolina</td>
<td>100.00%</td>
<td>$217,500.00</td>
</tr>
<tr>
<td>Latour Jr, Robert A</td>
<td>Integrated Technologies for Polymeric Biomaterials, RESBIO</td>
<td>Rutgers, the State University of New Jersey</td>
<td>100.00%</td>
<td>$101,766.00</td>
</tr>
<tr>
<td>Latour Jr, Robert A</td>
<td>BloodSurf 2016: Blood-Biomaterial Interactions</td>
<td>National Institutes of Health/DHHS</td>
<td>100.00%</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Latour Jr, Robert A</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT)</td>
<td>National Institutes of Health/DHHS</td>
<td>10.00%</td>
<td>$222,010.60</td>
</tr>
<tr>
<td>Lee, Jeoung Soo</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC</td>
<td>National Institutes of Health/DHHS</td>
<td>5.00%</td>
<td>$111,005.30</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Award Number</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Mei, Ying</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC</td>
<td>National Institutes of Health/DHHS</td>
<td>$111,005.30</td>
<td>2097563</td>
</tr>
<tr>
<td></td>
<td>BioCRAFT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercuri, Jeremy J</td>
<td>Undergraduate Education and Device Innovation Through Clinical and Translational</td>
<td>National Institutes of Health/DHHS</td>
<td>$8,532.00</td>
<td>2010091</td>
</tr>
<tr>
<td></td>
<td>Partnerships in Biomedical Capstone Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mercuri, Jeremy J</td>
<td>NSF Graduate Fellowship - Ryan Borem</td>
<td>National Science</td>
<td>$46,000.00</td>
<td>2011382</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nagatomi, Jiro</td>
<td>Inflammasomes Mediate Inflammation in Bladder Outlet Obstruction</td>
<td>Duke University</td>
<td>$39,627.00</td>
<td>2011100</td>
</tr>
</tbody>
</table>

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

**Bioengineering**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Award Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reukov, Vladimir Vladimirovic</td>
<td>Renderable Flocculants for Wastewater Treatment</td>
<td>Fats and Proteins</td>
<td>$44,000.00</td>
<td>2011940</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Research Foundation, Inc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richardson, William J</td>
<td>Mechano-Adaptive Fibrosis Signaling for Post-Infarct Therapy</td>
<td>American Heart Association</td>
<td>$231,000.00</td>
<td>2011758</td>
</tr>
<tr>
<td>Rodriguez, Jorge Ivan</td>
<td>Undergraduate Education and Device Innovation Through Clinical and Translational</td>
<td>National Institutes of Health/DHHS</td>
<td>$4,266.00</td>
<td>2010091</td>
</tr>
<tr>
<td></td>
<td>Partnerships in Biomedical Capstone Design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simionescu, Agneta</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC</td>
<td>National Institutes of Health/DHHS</td>
<td>$111,005.30</td>
<td>2097563</td>
</tr>
<tr>
<td></td>
<td>BioCRAFT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Institutes of Health/DHHS</td>
<td>Sponsor: University of Texas at San Antonio</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Mechanistic Justification for Penta
galloyl Glucose Mediated AAA Supression | 100.00% $16,499.00 2011626 |
| Functional Tissue Engineering and Regener
gation of the Aortic Root | 100.00% $403,979.00 2011657 |
| Reversal of MVAD-Related Aortic Valve Injury; in vitro Study 1 | 100.00% $19,439.00 2011889 |
| Sponsor: Heartware, Inc | |
| South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT) | 10.00% $222,010.60 2097563 |
| Targeted Delivery of Antioxidant Drugs Following Cerebral Ischemic Injury | 100.00% $75,000.00 2011896 |
| Sponsor: Veterans Affairs | |
| Renderable Flocculants for Wastewater Treatment | 20.00% $11,000.00 2011940 |
| Sponsor: Fats and Proteins Research Foundation, Inc. | |
| BUILDing Scholars-Research Enrichment Core | 100.00% $45,442.00 2010867 |
| Sponsor: University of Texas at El Paso | |
| Post-doctoral Support for H. Tam | 100.00% $41,000.00 2011516 |
| Sponsor: W.L. Gore & Associates, Inc. | |
| Theranostic Approach to Treat Abdominal Aortic Aneurysms | 100.00% $378,775.00 2011885 |
Sponsor: National Institutes of Health/DHHS

Vyawahare, Narendra R  
South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT)  
Sponsor: National Institutes of Health/DHHS

Webb, Charles K  
Renewal REU Site: Interfaces and Surfaces  
Sponsor: National Science Foundation

Yao, Hai  
Advanced Methods for Assessment of Soft Tissue Matrices  
Sponsor: American Association of Tissue Banks

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Bioengineering

Yao, Hai  
An Open Label, Multi-Center, Retrospective and Prospective Evaluation of Shoulder Arthroplasty Clinical and Radiographic Outcomes  
Sponsor: Medical University of SC (MUSC)

Yao, Hai  
Characterization of Biochemical Composition and Tissue Structure of Heart Valve Leaflets  
Sponsor: LifeNet Health

Ye, Tong  
RII Track-2 FEC: Bridging Cognitive Science and Neuroscience Using Innovative Imaging Technologies  
Sponsor: Medical University of South Carolina

Zhang, Guigen  
Workshop on "Convergence for Advancing Regulatory Science"  
Sponsor: Burroughs Wellcome Fund

Total: Bioengineering  
$4,604,513.20

Campbell Grad Engr Program
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Title</th>
<th>Award Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abu-Farha,Fadi Kamal</td>
<td>Cost-Effective Forming of Ultra High Strength Aluminium Alloy Components via Integrated HB-CD Stamping / Aging _ Phase-2</td>
<td>100.00%</td>
<td>$67,200.00</td>
<td>2011651</td>
</tr>
<tr>
<td></td>
<td>Sponsor: BMW of North America</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abu-Farha,Fadi Kamal</td>
<td>Project Title is Confidential</td>
<td>100.00%</td>
<td>$194,000.00</td>
<td>2011673</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Trinity Tank Car, Inc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abu-Farha,Fadi Kamal</td>
<td>Cost-Effective Forming of Ultra High Strength Aluminium Alloy Components via Integrated HB-CD Stamping / Aging _ Phase-3</td>
<td>100.00%</td>
<td>$55,000.00</td>
<td>2011953</td>
</tr>
<tr>
<td></td>
<td>Sponsor: BMW Manufacturing Corporation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abu-Farha,Fadi Kamal</td>
<td>CTE-Mismatch Effects in Multi-Material Automotive Structures - Phase II</td>
<td>100.00%</td>
<td>$311,873.00</td>
<td>2012013</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Henkel Technologies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayalew,Beshah</td>
<td>Model Based Simulation for Vehicle Drift/Pull Phenomenon</td>
<td>100.00%</td>
<td>$90,793.00</td>
<td>2011704</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Toyota, USA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ayalew,Beshah</td>
<td>Objective Psycho-vibratory Assessment of Vehicle Comfort</td>
<td>50.00%</td>
<td>$66,658.00</td>
<td>2011713</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Michelin Corporation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brooks,Johnell O</td>
<td>Extending Driving Simulator Applications for Persons with Autism Spectrum Disorder</td>
<td>100.00%</td>
<td>$99,993.00</td>
<td>2011054</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Fullerton Foundation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brooks,Johnell O</td>
<td>SCH: EXP: home+, an Intelligent and Collaborative Suite of Robotic Furnishings, Learning and Evolving with Their Users</td>
<td>20.00%</td>
<td>$20,418.20</td>
<td>2011698</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Cornell University (FDP)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brooks,Johnell O</td>
<td>Development and Testing of Procedures to Examine Driver's Ability to Detect and Identify Traffic Signs and Road Hazards Using DriveSafety Simulator Under Varying Levels of Visibility - 2</td>
<td>100.00%</td>
<td>$149,419.00</td>
<td>2011832</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Award Year</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>------------</td>
</tr>
<tr>
<td>Brooks, Johnell O</td>
<td>Sabbatical Support &amp; DriveSafety</td>
<td>100.00%</td>
<td>$138,230.00</td>
<td>2011912</td>
</tr>
<tr>
<td>Filipi, Zoran</td>
<td>An Investigation of Idle Operation Fuel Economy Improvement for Diesel Engines</td>
<td>40.00%</td>
<td>$48,186.80</td>
<td>2011710</td>
</tr>
<tr>
<td></td>
<td><strong>COLLEGE OF ENGINEERING, COMPUTING &amp; APPLIED SCIENCES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campbell Grad Engr Program</td>
<td><strong>American Society of Mechanical Engineers Auxiliary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hoffman, Mark A</td>
<td>Mitigating Gasoline Particulate Emissions: Challenges and Best Practices</td>
<td>65.00%</td>
<td>$6,500.00</td>
<td>2011653</td>
</tr>
<tr>
<td>Ivance, Andrej</td>
<td>Predictive Methodology Evaluating the Technology Potential for Mild Vehicle Electrification</td>
<td>100.00%</td>
<td>$222,465.00</td>
<td>2011800</td>
</tr>
<tr>
<td>Krovi, Venkat Narayan</td>
<td>RJ: Small: Dynamic Payload Transport and Manipulation by Teams of Cooperating Mobile Robotic-Cranes - Transfer</td>
<td>100.00%</td>
<td>$192,469.00</td>
<td>2011696</td>
</tr>
<tr>
<td>Mears, Michael L</td>
<td>Travel Supplement: CAREER: Model-Based Control of Machining Processes and Scalability for Manufacturing System Control.</td>
<td>100.00%</td>
<td>$6,150.00</td>
<td>2007700</td>
</tr>
<tr>
<td>Mears, Michael L</td>
<td>Modeling of Friction Element Welding Process</td>
<td>34.00%</td>
<td>$47,502.08</td>
<td>2011486</td>
</tr>
<tr>
<td>Mears, Michael L</td>
<td>South Carolina Rapid Innovation Laboratory (SCRIL)</td>
<td>50.00%</td>
<td>$113,333.00</td>
<td>2011846</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Proposal Title</td>
<td>Percentage</td>
<td>Amount</td>
<td>Submission No.</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>----------------</td>
</tr>
<tr>
<td>SC Dept of Commerce</td>
<td>AoC: Manufacturing Energy Health Monitoring</td>
<td>50.00%</td>
<td>$30,000.00</td>
<td>2012061</td>
</tr>
<tr>
<td>BMW Manufacturing Corp.</td>
<td>Augmented Associate: Electrical Connector Quality</td>
<td>50.00%</td>
<td>$60,000.00</td>
<td>2012092</td>
</tr>
<tr>
<td>BMW Manufacturing Corp.</td>
<td>Mitigating Gasoline Particulate Emissions: Challenges and Best Practices</td>
<td>35.00%</td>
<td>$3,500.00</td>
<td>2011653</td>
</tr>
<tr>
<td>American Society of Mechanical Engineers Auxiliary</td>
<td>CAREER: A Fundamental Modeling Approach for Emission Optimization-Based Control in Gasoline Direct Injection Engines</td>
<td>100.00%</td>
<td>$500,000.00</td>
<td>2011857</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Tools for Optimal Selection of Energy Storage Technology in Electrified Military Vehicles</td>
<td>100.00%</td>
<td>$50,000.00</td>
<td>2012054</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>A Systems Approach to Design and Manufacture CNC-Enabled Lightweight Automotive Components</td>
<td>100.00%</td>
<td>$230,032.00</td>
<td>2011998</td>
</tr>
<tr>
<td>U.S. Endowment for Forests and Communities, Inc.</td>
<td>A Novel &quot;Full-Spectrum&quot; Absorbing Hybrid Active layer for Improving the Efficiency of Thin-Film Solar Cells</td>
<td>100.00%</td>
<td>$6,000.00</td>
<td>2021461</td>
</tr>
<tr>
<td>SC Space Grant Consortium</td>
<td>Clemson Composites Center: Intelligent Revitalization of Composites Design and Manufacturing</td>
<td>100.00%</td>
<td>$1,500,000.00</td>
<td>2022024</td>
</tr>
<tr>
<td>SC Dept of Commerce</td>
<td>AoC: Manufacturing Energy Health Monitoring</td>
<td>50.00%</td>
<td>$30,000.00</td>
<td>2012061</td>
</tr>
</tbody>
</table>
Sponsor: BMW Manufacturing Corporation

Pisu, Pierluigi
Center for Connected Multimodal Mobility (C2M2)
5.00% $70,110.00  2021810

Sponsor: Department of Transportation

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Campbell Grad Engr Program

Prucka, Robert G
An Investigation of Idle Operation Fuel Economy Improvement for Diesel Engines
60.00% $72,280.20  2011710

Sponsor: Robotic Research LLC

Total: Campbell Grad Engr Program $4,382,112.28

Chemical & Biomolecular Engineering

Blenner, Mark Alan
REU Supplement- Enhanced Production of Advanced Biofuels through Model Guided Synthetic Biology
100.00% $6,000.00  2010248

Sponsor: National Science Foundation

Blenner, Mark Alan
Renewal REU Site: Interfaces and Surfaces
3.30% $3,630.00  2010481

Sponsor: National Science Foundation

Blenner, Mark Alan
(YIP) Engineering Robust Enzyme Activity through Fundamental Studies of Extremophile Enzymes
100.00% $110,261.00  2010807

Sponsor: US AIR FORCE

Blenner, Mark Alan
Predictive Structure-Function Relationships for Enzymes Immobilized on Complex Surfaces
50.00% $79,181.50  2011256

Sponsor: Defense Threat Reduction Agency

Blenner, Mark Alan
Discriminatory Transcriptional Response of Environmental Microorganisms and Microbial Communities to Low-Dose Ionizing Radiation
50.00% $141,039.50  2011686
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blenner, Mark Alan</td>
<td>Understanding the influence of kinetics and structure in CRISPR-Cas9 cutting of non-conventional yeast DNA</td>
<td>Sponsor: SC EPSCOR</td>
</tr>
<tr>
<td>Davis, Eric Mikel</td>
<td>NSF Graduate Fellowship - Allison Jansto</td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Getman, Rachel B</td>
<td>EFRC: Center for Inverse Design and Computational Discovery of Atomically Precise Cluster Catalysts for Energy Conversion201</td>
<td>Sponsor: University of Minnesota</td>
</tr>
<tr>
<td>Getman, Rachel B</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Hirt, Douglas E</td>
<td>SCSGC Campus Director Administrative Budget</td>
<td>Sponsor: SC Space Grant Consortium</td>
</tr>
<tr>
<td>Husson, Scott M</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Husson, Scott M</td>
<td>Robust Extractive Scintillating Resin and Adsorptive Membranes for Plutonium Isotopic Analyses of Aqueous Media</td>
<td>Sponsor: National Science Foundation</td>
</tr>
</tbody>
</table>
## COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

**Chemical & Biomolecular Engineering**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Award Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>SRNL External Review of Select Competencies: Environmental Science and Engineering, Chemistry and Radiochemistry, Materials Science and Engineering</td>
<td>20.00%</td>
<td>$20,958.40</td>
<td>2011517</td>
</tr>
<tr>
<td>Savannah River National Laboratory</td>
<td>PFI: AIR-TT: Translation of Multimodal Membrane Adsorbers for Protein Purifications</td>
<td>60.00%</td>
<td>$120,000.00</td>
<td>2011569</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Simulation-Based Design of Polymer Nanocomposites for Structural Applications</td>
<td>30.00%</td>
<td>$133,117.20</td>
<td>2011507</td>
</tr>
<tr>
<td>Fats and Proteins Research Foundation, Inc.</td>
<td>Reactive Conversion of Oils Extracted from DAF Sludge</td>
<td>100.00%</td>
<td>$37,815.00</td>
<td>2012007</td>
</tr>
<tr>
<td>University of Delaware</td>
<td>Tailored Universal Feedstock for Forming (TuFF)</td>
<td>100.00%</td>
<td>$690,141.00</td>
<td>2011208</td>
</tr>
<tr>
<td>Prasidix</td>
<td>SBIR Phase II: Development of Polymer Gel-Based Indicators to Monitor the Exposure of Pharmaceuticals to Harmful Temperatures</td>
<td>100.00%</td>
<td>$67,500.00</td>
<td>2011733</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>2010481</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Collaborative Research: Heterogeneous ice nucleation in clouds: A synergistic experimental and simulation approach</td>
<td>100.00%</td>
<td>$84,896.00</td>
<td>2011220</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Title</td>
<td>Amount</td>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------------------------------</td>
<td>------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>DOE</td>
<td>Predictive Structure-Function Relationships for Enzymes Immobilized on Complex Surfaces</td>
<td>$79,181.30</td>
<td>2011295</td>
<td></td>
</tr>
<tr>
<td>NSF</td>
<td>NUCLEATION: Large Scale Simulations Enabled Materials Engineering for Heterogeneous Ice</td>
<td>$106,521.00</td>
<td>2011321</td>
<td></td>
</tr>
<tr>
<td>NSAF</td>
<td>Rapid And Accurate Uncertainty Propagation For Nonlinear Dynamic Systems By Exploiting Model Redundancy</td>
<td>$2,772,288.01</td>
<td>2011295</td>
<td></td>
</tr>
<tr>
<td>US AIR FORCE</td>
<td>Total: Chemical &amp; Biomolecular Engineering</td>
<td>$29,969.00</td>
<td>2011295</td>
<td></td>
</tr>
<tr>
<td>US DEPARTMENT OF THE INTERIOR</td>
<td>Next Generation Liquefaction (NGL) Project</td>
<td>$12,984.00</td>
<td>2011295</td>
<td></td>
</tr>
<tr>
<td>UNIVERSITY OF CALIFORNIA, BERKELEY</td>
<td>Foresight for Disaster Management, Infrastructure Risk Index Analysis</td>
<td>$40,400.00</td>
<td>2011475</td>
<td></td>
</tr>
</tbody>
</table>

**Civil Engineering**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Title</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. Anand D. Andrus</td>
<td>Liquefaction Probability Analysis of Pleistocene Deposits in the Greater Charleston, South Carolina Area</td>
<td>$29,969.00</td>
<td>2011295</td>
</tr>
<tr>
<td>Dr. Anand D. Andrus</td>
<td>Next Generation Liquefaction (NGL) Project</td>
<td>$12,984.00</td>
<td>2011295</td>
</tr>
<tr>
<td>Amuruktar Russcher, Szu</td>
<td>Foresight for Disaster Management, Infrastructure Risk Index Analysis</td>
<td>$40,400.00</td>
<td>2011475</td>
</tr>
</tbody>
</table>

**College of Engineering, Computing & Applied Sciences**
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Sponsor</th>
<th>Percent</th>
<th>Amount</th>
<th>Award Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atamturktur Russcher, Sez</td>
<td>Simulation-Based Design of Polymer Nanocomposites for Structural Applications</td>
<td>National Science Foundation</td>
<td>40.00%</td>
<td>$177,489.60</td>
<td>2011507</td>
</tr>
<tr>
<td>Atamturktur Russcher, Sez</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>38.00%</td>
<td>$1,136,161.62</td>
<td>2011586</td>
</tr>
<tr>
<td>Atamturktur Russcher, Sez</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support</td>
<td>National Science Foundation</td>
<td>16.00%</td>
<td>$216,943.20</td>
<td>2011602</td>
</tr>
<tr>
<td>Atamturktur Russcher, Sez</td>
<td>Framework for Downtime Loss Modeling for Industrial Facilities</td>
<td>AIG PC Global Services, Inc</td>
<td>100.00%</td>
<td>$59,894.00</td>
<td>2011748</td>
</tr>
<tr>
<td>Burati Jr, James L</td>
<td>Transportation Technology Transfer Service (T3S)</td>
<td>SC Dept of Transportation</td>
<td>100.00%</td>
<td>$432,061.00</td>
<td>2011687</td>
</tr>
<tr>
<td>Chalil Madathil, Kapil</td>
<td>Center for Aviation and Automotive Technological Education Using Virtual E-School [CA2VES]: A Resource to Meet Technician Workforce Needs - REU Supplement</td>
<td>National Science Foundation</td>
<td>40.00%</td>
<td>$36,340.80</td>
<td>2010539</td>
</tr>
<tr>
<td>Chalil Madathil, Kapil</td>
<td>A Sustainable ATE Coordination Network for Enhancing Personalized Learning Using Virtual and Augmented Reality-based Technology Innovations in Technician Education</td>
<td>National Science Foundation</td>
<td>20.00%</td>
<td>$158,564.00</td>
<td>2011905</td>
</tr>
<tr>
<td>Chalil Madathil, Kapil</td>
<td>Virtual Reality Environments for Enhancing the Risk Assessment Skills of Field Engineers</td>
<td>AIG PC Global Services, Inc</td>
<td>100.00%</td>
<td>$93,849.00</td>
<td>2011913</td>
</tr>
<tr>
<td>Chalil Madathil, Kapil</td>
<td>Virtual Reality Environments for Evaluating the Risks Involved in Power Generation</td>
<td>AIG PC Global Services, Inc</td>
<td>100.00%</td>
<td>$63,620.00</td>
<td>2011929</td>
</tr>
</tbody>
</table>
Chalil Madathil, Kapil  
Virtual Reality Environments for Evaluating the Effects of Wind Risk  
100.00%  $48,242.00  2011930  
Sponsor: AIG PC Global Services, Inc

Chalil Madathil, Kapil  
Expanding Teleconsent Capabilities to Improve Clinical Research Recruitment  
100.00%  $7,500.00  2012042  
Sponsor: Doxy.me, LLC

Chalil Madathil, Kapil  
Center for Connected Multimodal Mobility (C2M2)  
3.00%  $42,066.00  2021810  
Sponsor: Department of Transportation

Chen, Qiushi  
Site Conditions Database and Liquefaction Quantification for AIG U.S. Earthquake Model  
90.00%  $64,622.70  2011750  
Sponsor: AIG PC Global Services, Inc

Chen, Qiushi  
Multiscale Random Field-based Probabilistic Regional Liquefaction Mapping  
90.00%  $56,527.20  2011833  
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)

Chen, Qiushi  
In Situ Composite Manufacturing via Biocementation of Martian Soil  
60.00%  $14,400.00  2022022  
Sponsor: SC Space Grant Consortium

Chen, Qiushi  
Biotransformation of Space Mission Organic Waste and Martian Regolith into Nutraceuticals and Biocement  
50.00%  $12,500.00  2022060  
Sponsor: SC Space Grant Consortium

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

**Civil Engineering**

Chowdhury, Mashrur A  
EAGER: Feedback-based Network Optimization for Smart Cities  
50.00%  $75,537.00  2011506  
Sponsor: National Science Foundation

Chowdhury, Mashrur A  
NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an  
6.00%  $179,393.94  2011586
<table>
<thead>
<tr>
<th>Researcher/Project</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chowdhury, Mashru A</td>
<td>2016 Eisenhower Graduate Transportation Fellowship</td>
<td>100.00%</td>
<td>$5,000.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Chowdhury, Mashru A</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>35.00%</td>
<td>$490,770.00</td>
<td>Department of Transportation</td>
</tr>
<tr>
<td>Eranki, Pragnya Lavanya</td>
<td>Evaluating the Net Climate Benefits of Switchgrass versus Pine Plantations in the Southeast: A Seed Grant to Support Data Collection and Model Development</td>
<td>33.00%</td>
<td>$48,755.52</td>
<td>Department of Agriculture</td>
</tr>
<tr>
<td>Juang, Charm-hsein</td>
<td>Site Conditions Database and Liquefaction Quantification for AIG U.S. Earthquake Model</td>
<td>10.00%</td>
<td>$7,180.30</td>
<td>AIG PC Global Services, Inc</td>
</tr>
<tr>
<td>Juang, Charm-hsein</td>
<td>Multiscale Random Field-based Probabilistic Regional Liquefaction Mapping</td>
<td>10.00%</td>
<td>$6,280.80</td>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
</tr>
<tr>
<td>Kaye, Nigel Gregory</td>
<td>Performance Based Design of Low Impact Development Technologies in Response to Climate Change Induced Changes in Rainfall Patterns</td>
<td>50.00%</td>
<td>$25,032.50</td>
<td>SC Sea Grant Consortium</td>
</tr>
<tr>
<td>Klotz, Leidy E</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries</td>
<td>11.00%</td>
<td>$31,136.38</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
</tr>
<tr>
<td>Landis, Amy Elaine</td>
<td>NSF Graduate Fellowship - Tyler Harris</td>
<td>100.00%</td>
<td>$46,000.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Landis, Amy Elaine</td>
<td>REU Supplement: Evaluating Sustainable Disposal Options for Compostable Biopolymers</td>
<td>100.00%</td>
<td>$8,000.00</td>
<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Analysis of Nutrient Flow from Farm to Globe using Agricultural Soil Water Sustainability Evaluation (ASWAE) Framework 100.00% $496,999.00 2012004</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries 17.00% $48,119.86 2021612</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>Pollution Prevention (P2) through an Economy-Energy-Environment (E3) Partnership in South Carolina 20.00% $12,741.80 2022055</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE) 6.00% $179,393.94 2011586</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Clemson TIGERS ADVANCE Transforming the Institution through Gender Equity, Retention, and Support 1.00% $13,558.95 2011602</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

**Civil Engineering**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMW Manufacturing Corporation</td>
<td>Tornado Damage Factors Determination for BMW Group Plant 10.10 Spartanburg 50.00% $17,500.00 2011726</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>Implementation of GEM2.5 OpenQuake on the Palmetto Supercomputer 100.00% $56,511.00 2012029</td>
</tr>
<tr>
<td></td>
<td>Center for Connected Multimodal Mobility (C2M2) 3.00% $42,066.00 2021810</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an</td>
</tr>
<tr>
<td>Mishra, Ashok</td>
<td>Interdisciplinary, Venture-based Education (PROACTIVE)</td>
</tr>
<tr>
<td></td>
<td>RAPID: Cascading of Extreme Events (Drought-Wildfire) in a Pristine Watershed Located in the Southeast US: Implication on Hydrology, Water Quality and Microbial Communities</td>
</tr>
<tr>
<td></td>
<td>Climate Informed Flood Risk Model</td>
</tr>
<tr>
<td></td>
<td>CAREER: Quantifying Drought and Vulnerability Indicators for Water Security in a Changing Environment</td>
</tr>
<tr>
<td>Mishra, Ashok</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
</tr>
<tr>
<td></td>
<td>Adaptability Toolkit for South Carolina's Coastal Water Infrastructures</td>
</tr>
<tr>
<td>Mishra, Ashok</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Program Management for the South Carolina Water Resources Center</td>
</tr>
<tr>
<td>Mishra, Ashok</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clemson TIGERS ADVANCE</td>
</tr>
<tr>
<td>Ogle, Jennifer H</td>
<td>Transforming the Institution through Gender Equity, Retention, and Support</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Pang, Weichiang</td>
<td>NSF Graduate Fellowship - Michael Stoner</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Tornado Damage Factors Determination for BMW Group Plant 10.10 Spartanburg</td>
</tr>
<tr>
<td>BMW Manufacturing Corporation</td>
<td>Development of Asia Typhoon Track Model</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>Development of U.S. Hurricane Hazards Database</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>Development of U.S. Hurricane Vulnerability Model</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>Development of Customized Seismic Vulnerability Functions and Performance-Based Loss Assessment Framework for Commercial Buildings</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td>Development of a Vapor Cloud Explosion Tool with Blast Vulnerability Model for Terrorism Risk Assessment</td>
</tr>
<tr>
<td>USDA Forest Service (FS)</td>
<td>Utilization of Cross Laminated Timber (CLT) in Low and Mid-rise Buildings for Enhanced Wind Performance</td>
</tr>
<tr>
<td>Pang, Weichiang</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Proposal/Project Description</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------</td>
</tr>
<tr>
<td><strong>Department of Transportation</strong></td>
<td>Proposal for the Establishment of a Clemson-NASTT Student Chapter</td>
</tr>
<tr>
<td>Piratla, Kalyan Ram</td>
<td>CRISP Type I: Data-driven Real-time Simulation for Adaptive Control of Interdependent Infrastructure Systems</td>
</tr>
<tr>
<td>Piratla, Kalyan Ram</td>
<td>Adaptability Toolkit for South Carolina’s Coastal Water Infrastructures</td>
</tr>
<tr>
<td>Putman, Bradley J</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
</tr>
<tr>
<td>Putman, Bradley J</td>
<td>Calibration of the Aashto Pavement Design Guide to South Carolina Conditions - Phase II</td>
</tr>
<tr>
<td>Rangaraju, Prasada Rao</td>
<td>Evaluation of Coal Ash as a Supplementary Cementitious Material for Application in Cement-Treated Base and Pavement Reclamation Projects</td>
</tr>
<tr>
<td>Rangaraju, Prasada Rao</td>
<td>Development and Use of Biosilica as a High Reactivity Pozzolan in Ultra-High Performance Concrete (UHPC) Mixtures</td>
</tr>
<tr>
<td>Ross, Brandon E</td>
<td>Adaptability Toolkit for South Carolina’s Coastal Water Infrastructures</td>
</tr>
<tr>
<td>Sarasua, Wayne A</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>Evaluation of Education and Training Activities</td>
</tr>
<tr>
<td>AIG PC Global Services, Inc</td>
<td></td>
</tr>
<tr>
<td><strong>Total: Civil Engineering</strong></td>
<td></td>
</tr>
<tr>
<td>Dean of Engineering &amp; Science</td>
<td></td>
</tr>
<tr>
<td>Gramopadhye, Anand K</td>
<td>Center for Aviation and Automotive Technological Education Using Virtual E-School [CA2VES]: A Resource to Meet Technician Workforce Needs - REU Supplement</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Gramopadhye, Anand K</td>
<td>A Sustainable ATE Coordination Network for Enhancing Personalized Learning Using Virtual and Augmented Reality-based Technology Innovations in Technician Education</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Hartley, Rebecca Short</td>
<td>Center for Aviation and Automotive Technological Education Using Virtual E-School [CA2VES]: A Resource to Meet Technician Workforce Needs - REU Supplement</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Hartley, Rebecca Short</td>
<td>A Sustainable ATE Coordination Network for Enhancing Personalized Learning Using Virtual and Augmented Reality-based Technology Innovations in Technician Education</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td>Hartley, Rebecca Short</td>
<td>Robotics Workforce Development (ARMI)</td>
</tr>
<tr>
<td></td>
<td>Sponsor: Advanced Robotics for Manufacturing Institute (ARM Institute)</td>
</tr>
<tr>
<td>High, Karen Ann</td>
<td>Building Research Capacity for STEM Faculty Development</td>
</tr>
<tr>
<td></td>
<td>Sponsor: National Science Foundation</td>
</tr>
<tr>
<td><strong>Total: Dean of Engineering &amp; Science</strong></td>
<td></td>
</tr>
<tr>
<td>Electrical &amp; Computer Engineering</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Baum, Carl W</td>
<td>Curriculum Development—Chinese Language and Electrical Engineering</td>
</tr>
<tr>
<td>Bottum, James R</td>
<td>RCN: Advancing Research and Education Through a National Network of Campus Research Computing Infrastructures, The CaRC Consortium</td>
</tr>
<tr>
<td>Bottum, James R</td>
<td>Assigned Staff Agreement</td>
</tr>
<tr>
<td>Bottum, James R</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>Robust Network Fusion Algorithms for Detection and Localization of Radiation Sources</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>ClC1: Data Provenance: Collaborative Research: Provenance Assurance Using Currency Primitives - REU</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>Collaborative Research: ClC1: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>EAGER: Towards a Traffic Analysis Resistant Internet Architecture</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>MINOS Data Analytics and Fusion Advisory</td>
</tr>
<tr>
<td>Brooks, Richard R</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
</tr>
<tr>
<td>Corzine, Keith A</td>
<td>Power and Emerging Technologies Medium Voltage Direct Current (MVDC) Z-Source Breaker Demonstrator Testing</td>
</tr>
<tr>
<td>Dong, Liang</td>
<td>All-solid Photonic Bandgap Fibers for kW-level Narrow-Linewidth Single-mode CW Fiber Lasers</td>
</tr>
<tr>
<td>Dong, Liang</td>
<td>Novel Fiber Concepts for High Power Single Mode Fiber Lasers</td>
</tr>
<tr>
<td>Dong, Liang</td>
<td>A Unified Materials Approach to Mitigating Nonlinearities in HEL Optical Fibers</td>
</tr>
<tr>
<td>Fox, John C</td>
<td>LDRD Power Line Noise Study</td>
</tr>
<tr>
<td>Fox, John C</td>
<td>Understanding the Role of Short-term Energy Storage and Large Motor Loads for Active Power Controls by Wind Power</td>
</tr>
<tr>
<td>Gemmill, Jill B</td>
<td>Collaborative Research: CICI: Regional: SouthEast SciEntific Cybersecurity for University REsearch (SouthEast SECURE)</td>
</tr>
<tr>
<td>Hadidi, Ramtin</td>
<td>CAPER PD-1 Critical Infrastructure Resilience of the Distribution Grid - Additional Funds (C/1)</td>
</tr>
</tbody>
</table>
## COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

### Electrical & Computer Engineering

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hadidi, Ramtin</td>
<td>Customer-oriented Planning Strategies for Active Distribution Systems</td>
<td>Various Private Sponsors (245)</td>
<td>100.00%</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Hadidi, Ramtin</td>
<td>CAPER Enhancement Project: Development and Demonstration of a 40kW Photovoltaic</td>
<td>Duke Energy Corporation</td>
<td>60.00%</td>
<td>$116,596.80</td>
</tr>
<tr>
<td></td>
<td>Synchronous Generator (PVSG) (C/I CAPER)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harrell, William R</td>
<td>Materials Research and Electrical Characterization of Polymer Tantalum Capacitors and Modules</td>
<td>Kemet Electronics Corporation</td>
<td>60.00%</td>
<td>$28,360.80</td>
</tr>
<tr>
<td>Harrell, William R</td>
<td>REU Site: Solid-State Devices for Electronics, Photonics, and Magnetics Technology</td>
<td>National Science Foundation</td>
<td>85.00%</td>
<td>$316,747.40</td>
</tr>
<tr>
<td>Hoover, Adam W</td>
<td>Using Context to Validate and Improve Wrist-Tracking Measures of Eating Activity</td>
<td>National Institutes of Health/DHHS</td>
<td>50.00%</td>
<td>$252,542.00</td>
</tr>
<tr>
<td>Johnson, Eric Gordon</td>
<td>Laser Filamentation Science</td>
<td>University of Central Florida</td>
<td>100.00%</td>
<td>$33,025.00</td>
</tr>
<tr>
<td>Johnson, Eric Gordon</td>
<td>Single-crystal Fiber Lasers</td>
<td>Rutgers, the State University of New Jersey</td>
<td>100.00%</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Johnson, Eric Gordon</td>
<td>Spatially and Temporally Agile Optical Communication Links for Maritime Applications</td>
<td></td>
<td>100.00%</td>
<td>$418,378.00</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Grant Number</td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>US Navy</td>
<td>Wafer bonding for hybrid photonic integration research</td>
<td>30.00%</td>
<td>$37,650.00</td>
<td>2012012</td>
</tr>
<tr>
<td>US ARMY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Materials Industries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alliance for Sustainable Energy, LLC</td>
<td>Understanding the Role of Short-term Energy Storage and Large Motor Loads for Active Power Controls by Wind Power</td>
<td>75.00%</td>
<td>$46,166.25</td>
<td>2011564</td>
</tr>
<tr>
<td>Duke Energy Corporation</td>
<td>CAPER Enhancement Project: Development and Demonstration of a 40kW Photovoltaic Synchronous Generator (PVSG) (C/I CAPER)</td>
<td>40.00%</td>
<td>$77,731.20</td>
<td>2011914</td>
</tr>
<tr>
<td>Omnibond Systems</td>
<td>OrangeFS Extended Research and Development</td>
<td>100.00%</td>
<td>$47,455.00</td>
<td>2012014</td>
</tr>
</tbody>
</table>

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES
### Electrical & Computer Engineering

**McKenzie, Kevin M**
- **Collaborative Research:** CICI: Regional; SouthEast SciEntific Cybersecurity for University REsearch (SouthEast SECURE)
- **Sponsor:** National Science Foundation

**Noneaker, Daniel L**
- **Addressing Circuitous Currents MVDC Power System Protection**
- **Sponsor:** US Navy

**Noneaker, Daniel L**
- **Computational Instrumentation for Research in Mobile Wireless Communication Networks**
- **Sponsor:** US ARMY

**Pursley, Michael B**
- **Efficient Delivery of Information in Tactical Packet Radio Networks**
- **Sponsor:** US ARMY

**Pursley, Michael B**
- **New Techniques for Network-Coded Multicast Distribution in Wireless Communications Networks**
- **Sponsor:** US Navy

**Pursley, Michael B**
- **Computational Instrumentation for Research in Mobile Wireless Communication Networks**
- **Sponsor:** US ARMY

**Russell, Harlan B**
- **Computational Instrumentation for Research in Mobile Wireless Communication Networks**
- **Sponsor:** US ARMY

**Ryckman, Judson Douglas**
- **Porous Nanomaterials for Next Generation Optical Biosensors**
- **Sponsor:** Southeastern Center for Electrical Engineering

**Salem, Thomas E**
- **LDRD Power Line Noise Study**
- **Sponsor:** National Science Foundation
Sponsor: Savannah River Nuclear Solutions

Salem, Thomas E
Improving Distribution Transformer Efficiency and Lifetime through Product Selection and Dynamic Load Control Support Activities (Amorphous Core Evaluation Kickoff)
Sponsor: Savannah River National Laboratory

Salem, Thomas E
Solid State Power Substation Roadmap (NSCB00005)
Sponsor: Savannah River National Laboratory

Singh, Rajendra
Energy Efficiency for the Growing South Carolina Manufacturing Industries
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Smith, Melissa Crawley
CAREER: Harnessing Hybrid Computing Research in PetaScale Computing and Beyond-Supplemental Funding
Sponsor: National Science Foundation

Smith, Melissa Crawley
CC*Data: National Cyberinfrastructure for Scientific Data Analysis at Scale (SciDAS)
Sponsor: National Science Foundation

Venayagamoorthy, Ganesh Kun
CRISP Type I: Data-driven Real-time Simulation for Adaptive Control of Interdependent Infrastructure Systems
Sponsor: National Science Foundation

Venayagamoorthy, Ganesh Kun
Energy Efficiency for the Growing South Carolina Manufacturing Industries
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Electrical & Computer Engineering

Walker, Ian D
NRI-Small: Long, Thin Continuum Robots for Space Applications

---

108
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Award Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walker, Ian D</td>
<td>SCH: EXP: home+, an Intelligent and Collaborative Suite of Robotic Furnishings, Learning and Evolving with Their Users</td>
<td>Cornell University (FDP)</td>
<td>80.00%</td>
<td>$81,672.80</td>
<td>2011698</td>
</tr>
<tr>
<td>Wang, Kuang-Ching</td>
<td>Tripal Gateway: Platform for Next-Generation Data Analysis and Sharing</td>
<td>Washington State University</td>
<td>25.00%</td>
<td>$562.50</td>
<td>2010428</td>
</tr>
<tr>
<td>Wang, Kuang-Ching</td>
<td>Collaborative Research: CICI: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
<td>National Science Foundation</td>
<td>20.00%</td>
<td>$99,961.00</td>
<td>2011531</td>
</tr>
<tr>
<td>Wang, Kuang-Ching</td>
<td>EAGER: Towards a Traffic Analysis Resistant Internet Architecture</td>
<td>National Science Foundation</td>
<td>50.00%</td>
<td>$124,999.50</td>
<td>2011585</td>
</tr>
<tr>
<td>Wang, Kuang-Ching</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>2.00%</td>
<td>$59,797.98</td>
<td>2011586</td>
</tr>
<tr>
<td>Wang, Pingshan</td>
<td>Label-free RF Imaging of Cell Membrane Heterogeneity in Liquid</td>
<td>National Institutes of Health/DHHS</td>
<td>100.00%</td>
<td>$144,703.00</td>
<td>2009178</td>
</tr>
<tr>
<td>Wang, Pingshan</td>
<td>PFI: AIR - TT: Microwave flow cytometer: monitor yeast cell growth and microbial contamination in fermentation</td>
<td>National Science Foundation</td>
<td>75.00%</td>
<td>$150,000.00</td>
<td>2011587</td>
</tr>
<tr>
<td>Wang, Yongqiang</td>
<td>A Summer Camp for Video-Game Based Control Learning for Middle School Girls</td>
<td>IEEE Control System Society</td>
<td>100.00%</td>
<td>$10,000.00</td>
<td>2011691</td>
</tr>
<tr>
<td>Xiao, Hai</td>
<td>Development of Gas Sensors for Analysis of Transformer Oil Dissolved Gases</td>
<td></td>
<td>70.00%</td>
<td>$280,000.00</td>
<td>2011614</td>
</tr>
</tbody>
</table>
Sponsor: Global Energy Interconnection Research Institute North America

Xiao, Hai
All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control 65.00% $321,224.15 2021621

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Xiao, Hai
Robust In Situ Strain Measurements to Monitor CO2 Storage 20.00% $98,227.40 2021622

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Zhu, Lin
On-chip Photonic Hybrid Integration 100.00% $120,000.00 2010333

Sponsor: US ARMY

Zhu, Lin
Integrated Modal Control and Beam Combining of High Power Diode Laser Arrays for the Next Generation HEL System 100.00% $10,000.00 2011918

Sponsor: US Navy

Zhu, Lin
Wafer bonding for hybrid photonic integration research 70.00% $87,850.00 2012012

Sponsor: US ARMY

Total: Electrical & Computer Engineering $8,825,292.47

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Engineering & Science Education

Benson, Lisa C
NSF Graduate Fellowship - Catherine McGough 100.00% $46,000.00 2011305

Sponsor: National Science Foundation

Benson, Lisa C
Clemson TIGERS ADVANCE
Transforming the Institution through Gender Equity, Retention, and Support 2.00% $27,117.90 2011602

Sponsor: National Science Foundation
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Funding Percentage</th>
<th>Amount</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frady, Kristin Kelly</td>
<td>A Sustainable ATE Coordination Network for Enhancing Personalized Learning Using Virtual and Augmented Reality-based Technology Innovations in Technician Education</td>
<td>20.00%</td>
<td>$158,564.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Orr, Marisa Kikendall</td>
<td>Expanding Access to and Participation in the Multiple-Institution Database for Investigating Engineering Longitudinal Development</td>
<td>100.00%</td>
<td>$97,166.00</td>
<td>Purdue University (FDP)</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Engineering &amp; Science Education</strong></td>
<td></td>
<td><strong>$328,847.90</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Environmental Engineering &amp; Earth Science</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brame, Scott E</td>
<td>Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors</td>
<td>15.00%</td>
<td>$14,892.60</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Carraway, Elizabeth R.</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries</td>
<td>11.00%</td>
<td>$31,136.38</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
</tr>
<tr>
<td>Coulson, Alan B</td>
<td>Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors</td>
<td>15.00%</td>
<td>$14,892.60</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Dale, Michael Anthony Joseph</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>6.00%</td>
<td>$179,393.94</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Dale, Michael Anthony Joseph</td>
<td>Energize: An Interactive Evaluation Tool for Engaging the General Public with Energy Decision Making</td>
<td>22.00%</td>
<td>$70,233.90</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
</tr>
<tr>
<td>Dale, Michael Anthony Joseph</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries</td>
<td>17.00%</td>
<td>$48,119.86</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
</tr>
<tr>
<td>Dale, Michael Anthony Joseph</td>
<td>Pollution Prevention (P2) through an Economy-Energy-Environment (E3) Partnership in South</td>
<td>20.00%</td>
<td>$12,741.80</td>
<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Title</td>
<td>Percentage</td>
<td>Amount</td>
<td>Code</td>
</tr>
<tr>
<td>---------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>EPA</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>DOE</td>
<td>Robust Extractive Scintillating Resin and Adsorptive Membranes for Plutonium Isotopic Analyses of Aqueous Media</td>
<td>34.00%</td>
<td>$58,650.00</td>
<td>2011158</td>
</tr>
<tr>
<td>DOE</td>
<td>Technetium Extraction/Retention Using Methylidioctylamine (MDOA) Incorporated Into a Polymethacrylate Resin</td>
<td>50.00%</td>
<td>$25,000.00</td>
<td>2011815</td>
</tr>
<tr>
<td>DOE</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>9.08%</td>
<td>$158,900.00</td>
<td>2020199</td>
</tr>
</tbody>
</table>

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

**Environmental Engineering & Earth Science**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Title</th>
<th>Percentage</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOE</td>
<td>Robust In Situ Strain Measurements to Monitor CO2 Storage</td>
<td>20.00%</td>
<td>$98,227.40</td>
<td>2021622</td>
</tr>
<tr>
<td>DOE</td>
<td>Inhibitory and Synergistic Effects in Mixtures of Contaminants, and Evaluation of Hydraulic Source Isolation at the Area P DuPont Camaçari Site</td>
<td>50.00%</td>
<td>$71,988.00</td>
<td>2009741</td>
</tr>
<tr>
<td>DuPont</td>
<td>A Practical Approach for Modeling Matrix Diffusion Effects in REMChlor</td>
<td>100.00%</td>
<td>$40,188.00</td>
<td>2010285</td>
</tr>
<tr>
<td>US Army Corp of Engineers</td>
<td>Evaluating Thermal Heating with Elemental Mercury</td>
<td>100.00%</td>
<td>$63,656.00</td>
<td>2011701</td>
</tr>
<tr>
<td>Sponsor: Savannah River National Laboratory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falta Jr., Ronald W</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finneran, Kevin Thomas</td>
<td>Characterizing Whether Inhibiting Methanogenesis Increases Complete Dechlorination</td>
<td>100.00%</td>
<td>$67,320.00</td>
<td>2011515</td>
</tr>
<tr>
<td>Sponsor: PeroxyChem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finneran, Kevin Thomas</td>
<td>Rendering Co-Products as Electron Donors for Subsurface Remediation: A New Market for Rendered Co-Products</td>
<td>100.00%</td>
<td>$39,874.00</td>
<td>2011944</td>
</tr>
<tr>
<td>Sponsor: Fats and Proteins Research Foundation, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finneran, Kevin Thomas</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedman, David L</td>
<td>Environment Research - SRR Account</td>
<td>100.00%</td>
<td>$12,000.00</td>
<td>1980088</td>
</tr>
<tr>
<td>Sponsor: Peerless Metal Powders and Abrasive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freedman, David L</td>
<td>Inhibitory and Synergistic Effects in Mixtures of Contaminants, and Evaluation of Hydraulic Source Isolation at the Area P DuPont Camaçari Site</td>
<td>50.00%</td>
<td>$71,988.00</td>
<td>2009741</td>
</tr>
<tr>
<td>Sponsor: DuPont</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladner, David Allen</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>2010481</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladner, David Allen</td>
<td>Biotransformation of Meat and Bone Meal (MBM) into High-value Astaxanthin for Animal Feed</td>
<td>50.00%</td>
<td>$5,500.00</td>
<td>2011942</td>
</tr>
<tr>
<td>Sponsor: Fats and Proteins Research Foundation, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ladner, David Allen</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries</td>
<td>11.00%</td>
<td>$31,136.38</td>
<td>2021612</td>
</tr>
</tbody>
</table>
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Ladner, David Allen
Pollution Prevention (P2) through an Economy-Energy-Environment (E3) Partnership in South Carolina
20.00% $12,741.80 2022055

Sponsor: EPA (Environmental Protection Agency)

Lee, Cindy M
Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors
10.00% $9,928.40 2010871

Sponsor: National Science Foundation

Lee, Cindy M
Building Research Capacity for STEM Faculty Development
25.00% $24,996.75 2011525

Sponsor: National Science Foundation

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Environmental Engineering & Earth Science

Martinez, Nicole Elizabeth
Discriminatory Transcriptional Response of Environmental Microorganisms and Microbial Communities to Low-Dose Ionizing Radiation
50.00% $141,039.50 2011686

Sponsor: Defense Threat Reduction Agency

Martinez, Nicole Elizabeth
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities
4.55% $79,625.00 2020199

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Molz III, Fred John
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities
4.55% $79,625.00 2020199

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Moysey, Stephen Michael
Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors
25.00% $24,821.00 2010871

Sponsor: National Science Foundation

Moysey, Stephen Michael
NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an
6.00% $179,393.94 2011586
Interdisciplinary, Venture-based Education (PROACTIVE)
Sponsor: National Science Foundation

Moysey, Stephen Michael
Energize: An Interactive Evaluation Tool for Engaging the General Public with Energy Decision Making
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Moysey, Stephen Michael
Provision of Geospatial Visualization Services
Sponsor: HRP Associates

Moysey, Stephen Michael
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Moysey, Stephen Michael
Characterizing and Interpreting the In Situ Strain Tensor During Co2 Injection
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Moysey, Stephen Michael
Robust In Situ Strain Measurements to Monitor CO2 Storage
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Murdoch, Lawrence C
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Murdoch, Lawrence C
Characterizing and Interpreting the In Situ Strain Tensor During Co2 Injection
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Murdoch, Lawrence C
Robust In Situ Strain Measurements to Monitor CO2 Storage
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Popat, Sudeep
Development of substrate-loaded microbial fuel cells for powering remote sensors
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)
### COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

#### Environmental Engineering & Earth Science

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Proposal Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powell, Brian A.</td>
<td>SRR Technical Support Provided by Clemson University</td>
<td>SCUREF</td>
<td>100.00%</td>
<td>$36,004.00</td>
<td>2009779</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>National Science Foundation</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>2010481</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>Robust Extractive Scintillating Resin and Adsorptive Membranes for Plutonium Isotopic Analyses of Aqueous Media</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>33.00%</td>
<td>$56,925.00</td>
<td>2011158</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>SRNL External Review of Select Competencies: Environmental Science and Engineering, Chemistry and Radiochemistry, Materials Science and Engineering, and Separations Science and Engineering</td>
<td>Savannah River National Laboratory</td>
<td>20.00%</td>
<td>$20,958.40</td>
<td>2011517</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>Collaborative Research: Hybrid Modeling of Reactive Transport in Porous and Fractured Media</td>
<td>San Diego State University Foundation</td>
<td>100.00%</td>
<td>$0.00</td>
<td>2011625</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project ID</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>Stabilization of Pu Complexes on Mineral Colloids by Natural Organic Matter</td>
<td>Lawrence Livermore National Labs</td>
<td>100.00%</td>
<td>$99,772.00</td>
<td>2011732</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>SRNL External Review Committee (ERC)</td>
<td>Savannah River Nuclear Solutions</td>
<td>25.00%</td>
<td>$18,155.50</td>
<td>2011926</td>
</tr>
<tr>
<td>Powell, Brian A.</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>22.71%</td>
<td>$397,425.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Schlautman, Mark A.</td>
<td>Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors</td>
<td>National Science Foundation</td>
<td>10.00%</td>
<td>$9,928.40</td>
<td>2010871</td>
</tr>
<tr>
<td>Selman, Aymen</td>
<td>Technetium Extraction/Retention Using Methylidioctylamine (MDOA) Incorporated Into a Polymethacrylate Resin</td>
<td>Savannah River National Laboratory</td>
<td>50.00%</td>
<td>$25,000.00</td>
<td>2011815</td>
</tr>
<tr>
<td>Shuller-Nickles, Lindsay Carmel</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>National Science Foundation</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>2010481</td>
</tr>
<tr>
<td>Shuller-Nickles, Lindsay Carmel</td>
<td>Energize: An Interactive Evaluation Tool for Engaging the General Public with Energy Decision Making</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>34.00%</td>
<td>$108,543.30</td>
<td>2011617</td>
</tr>
<tr>
<td>Shuller-Nickles, Lindsay Carmel</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Wagner, John Robert</td>
<td>Supplement- GP-EXTRA: Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors</td>
<td>National Science Foundation</td>
<td>10.00%</td>
<td>$9,928.40</td>
<td>2010871</td>
</tr>
<tr>
<td>Name</td>
<td>Project Title</td>
<td>Sponsor</td>
<td>Amount</td>
<td>Project Number</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>----------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Wagner, John Robert</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
</tr>
<tr>
<td>Zheng, Yi</td>
<td>Biotransformation of Meat and Bone Meal (MBM) into High-value Astaxanthin for Animal Feed</td>
<td>Fats and Proteins Research Foundation, Inc.</td>
<td>50.00%</td>
<td>$5,500.00</td>
<td>2011942</td>
</tr>
<tr>
<td>Zheng, Yi</td>
<td>In Situ Composite Manufacturing via Biocementation of Martian Soil</td>
<td>SC Space Grant Consortium</td>
<td>40.00%</td>
<td>$9,600.00</td>
<td>2022022</td>
</tr>
<tr>
<td>Zheng, Yi</td>
<td>Biotransformation of Space Mission Organic Waste and Martian Regolith into Nutraceuticals and Bio cement</td>
<td>SC Space Grant Consortium</td>
<td>50.00%</td>
<td>$12,500.00</td>
<td>2022060</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Environmental Engineering &amp; Earth Science</strong></td>
<td></td>
<td></td>
<td>$4,599,012.35</td>
<td></td>
</tr>
<tr>
<td>Martin III, William D</td>
<td>Performance Based Design of Low Impact Development Technologies in Response to Climate Change Induced Changes in Rainfall Patterns</td>
<td>SC Sea Grant Consortium</td>
<td>50.00%</td>
<td>$25,032.50</td>
<td>2021830</td>
</tr>
<tr>
<td></td>
<td><strong>Total: General Engineering</strong></td>
<td></td>
<td></td>
<td>$25,032.50</td>
<td></td>
</tr>
<tr>
<td>Eksioglu, Sandra Duni</td>
<td>Supplement- CAREER: Models for Supply Chain Design and Logistics Management of Biofuels</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$6,487.00</td>
<td>2010337</td>
</tr>
<tr>
<td>Eksioglu, Sandra Duni</td>
<td>Grid Computing Laboratory for Integrative Behavioral and Optimization Research</td>
<td></td>
<td>25.00%</td>
<td>$38,913.50</td>
<td>2011483</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Grant Number</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>US AIR FORCE</td>
<td>Energy Efficiency for the Growing South Carolina Manufacturing Industries</td>
<td>11.00%</td>
<td>$31,136.38</td>
<td>2021612</td>
<td></td>
</tr>
<tr>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>Cloud-based Decision Support System Integrating Biomass Quality, Uncertainty and Risk to Optimize the Production of Second-generation Biofuels</td>
<td>100.00%</td>
<td>$20,000.00</td>
<td>2021856</td>
<td></td>
</tr>
<tr>
<td>University of Texas at San Antonio</td>
<td>Pollution Prevention (P2) through an Economy-Energy-Environment (E3) Partnership in South Carolina</td>
<td>20.00%</td>
<td>$12,741.80</td>
<td>2022055</td>
<td></td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>Collaborative Research: Mixing and Consolidation Centers and On-Demand Logistics Collaboration</td>
<td>100.00%</td>
<td>$12,500.00</td>
<td>2011757</td>
<td></td>
</tr>
<tr>
<td>MH/CICMHE</td>
<td>The Impact of Emerging Logistics Paradigms on Material Handling System Functional Requirements</td>
<td>100.00%</td>
<td>$304,943.00</td>
<td>2011982</td>
<td></td>
</tr>
<tr>
<td>Toyota, USA</td>
<td>Tritium Supply Chain Modeling</td>
<td>50.00%</td>
<td>$52,500.00</td>
<td>2012005</td>
<td></td>
</tr>
<tr>
<td>Savannah River Nuclear Solutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various Private Sponsors (245)</td>
<td>SRR Account</td>
<td>100.00%</td>
<td>$4,000.00</td>
<td>1980631</td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>CAREER: Innovative Methods for Designing Adaptive Clinical Trials</td>
<td>100.00%</td>
<td>$500,000.00</td>
<td>2011805</td>
<td></td>
</tr>
<tr>
<td>Clemson TIGERS ADVANCE</td>
<td></td>
<td>2.00%</td>
<td>$27,117.90</td>
<td>2011602</td>
<td></td>
</tr>
</tbody>
</table>
### COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

**Industrial Engineering**

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Project Description</th>
<th>Budget</th>
<th>Sponsor</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mason, Scott Jennings</td>
<td>Grid Computing Laboratory for Integrative Behavioral and Optimization Research</td>
<td>25.00%</td>
<td>US AIR FORCE</td>
<td>2011483</td>
</tr>
<tr>
<td>Mason, Scott Jennings</td>
<td>Transportation Database Decision Support Tool</td>
<td>100.00%</td>
<td>SC Research Authority (SCRA)</td>
<td>2011534</td>
</tr>
<tr>
<td>Mason, Scott Jennings</td>
<td>Assessing Supply Chain Risk with a Contingent Business Interruption Insurance Coverage Lens</td>
<td>100.00%</td>
<td>AIG PC Global Services, Inc</td>
<td>2011749</td>
</tr>
<tr>
<td>Mason, Scott Jennings</td>
<td>South Carolina Rapid Innovation Laboratory (SCRIL)</td>
<td>10.00%</td>
<td>SC Dept of Commerce</td>
<td>2011846</td>
</tr>
<tr>
<td>Mason, Scott Jennings</td>
<td>Using Supply Chain Data Analytics to Improve the Effectiveness of BMW's MRP System</td>
<td>100.00%</td>
<td>BMW Manufacturing Corporation</td>
<td>2011994</td>
</tr>
<tr>
<td>Mason, Scott Jennings</td>
<td>Tritium Supply Chain Modeling</td>
<td>50.00%</td>
<td>Savannah River Nuclear Solutions</td>
<td>2012005</td>
</tr>
<tr>
<td>Neyens, David M</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD OR) Learning Lab</td>
<td>9.00%</td>
<td>National Institutes of Health/DHHS</td>
<td>2010985</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Riggs, Sara Lu</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.OR) Learning Lab</td>
<td>National Institutes of Health/DHHS</td>
<td>9.00%</td>
<td>$97,028.01</td>
</tr>
<tr>
<td></td>
<td>REU Supplement- CRII: CHS: Collaboratively Perceiving, Comprehending, and Projecting into the Future: Supporting Team Situational Awareness with Collaborative Tactons</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$16,000.00</td>
</tr>
<tr>
<td>Riggs, Sara Lu</td>
<td>Grid Computing Laboratory for Integrative Behavioral and Optimization Research</td>
<td>US AIR FORCE</td>
<td>25.00%</td>
<td>$38,913.50</td>
</tr>
<tr>
<td>Smith, Jonathan Cole</td>
<td>Grid Computing Laboratory for Integrative Behavioral and Optimization Research</td>
<td>US AIR FORCE</td>
<td>25.00%</td>
<td>$38,913.50</td>
</tr>
<tr>
<td>Smith, Jonathan Cole</td>
<td>Assessing the Impact of Asymmetric Information in Interdiction and Bilevel Games</td>
<td>US Navy</td>
<td>100.00%</td>
<td>$96,000.00</td>
</tr>
<tr>
<td>Smith, Jonathan Cole</td>
<td>GHS/Clemson Partnership: Student Assistance for Systems and Data Engineering</td>
<td>Greenville Health System (GHS)</td>
<td>100.00%</td>
<td>$22,680.00</td>
</tr>
<tr>
<td>Taaffe, Kevin M</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.OR) Learning Lab</td>
<td>National Institutes of Health/DHHS</td>
<td>6.00%</td>
<td>$64,685.34</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Industrial Engineering</strong></td>
<td></td>
<td></td>
<td><strong>$1,814,291.04</strong></td>
</tr>
</tbody>
</table>

### Materials Science & Engineering

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Fiscal Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballato, John M</td>
<td>Novel Fiber Concepts for High Power Single Mode Fiber Lasers</td>
<td>US ARMY</td>
<td>15.00%</td>
<td>$79,149.90</td>
<td>2009111</td>
</tr>
</tbody>
</table>

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**
### Materials Science & Engineering

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballato, John M</td>
<td>Mechanochromic Materials Research and Development Services</td>
<td>Bureau of Engraving and Printing</td>
<td>10.00%</td>
<td>$14,999.80</td>
</tr>
<tr>
<td>Ballato, John M</td>
<td>Internal Cooling of Fiber, and Disc lasers by Radiation Balancing and other Optical or Phonon Processed</td>
<td>University of Illinois at Urbana-Champaign</td>
<td>100.00%</td>
<td>$337,500.00</td>
</tr>
<tr>
<td>Ballato, John M</td>
<td>A Unified Materials Approach to Mitigating Nonlinearities in HEL Optical Fibers</td>
<td>US Navy</td>
<td>90.00%</td>
<td>$9,000.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>A New Paradigm for Understanding Multi-Phase Ceramic Waste Form Performance</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>25.00%</td>
<td>$64,033.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>Precursor-Derived Nanostructured Si-C-X Materials fro MHD Electrode Applications</td>
<td>University of Washington (FDP)</td>
<td>100.00%</td>
<td>$64,078.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>National Science Foundation</td>
<td>3.30%</td>
<td>$3,630.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>NSF Graduate Fellowship - Michelle Greenough</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$46,000.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>Joining of SiC/SiC composites using polymer derived ceramics</td>
<td>General Electric (GE)</td>
<td>100.00%</td>
<td>$89,993.00</td>
</tr>
<tr>
<td>Bordia, Rajendra Kumar</td>
<td>Upgrade of the High Temperature Mechanical Testing Facilities</td>
<td></td>
<td>100.00%</td>
<td>$25,000.00</td>
</tr>
</tbody>
</table>
Sponsor: GE Global Research

Brinkman, Kyle S  
A New Paradigm for Understanding Multi-Phase Ceramic Waste Form Performance  
75.00%  $192,099.00  2010311

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Brinkman, Kyle S  
Renewal REU Site: Interfaces and Surfaces  
3.30%  $3,630.00  2010481

Sponsor: National Science Foundation

Brinkman, Kyle S  
SRNL External Review of Select Competencies: Environmental Science and Engineering, Chemistry and Radiochemistry, Materials Science and Engineering, and Separations Science and Engineering  
20.00%  $20,958.40  2011517

Sponsor: Savannah River National Laboratory

Brinkman, Kyle S  
Center for Hierarchal Waste Form Materials (CHWM)  
100.00%  $70,000.00  2011715

Sponsor: University of South Carolina

Brinkman, Kyle S  
Fabricating Sol-Gel Precursors for Rare Earth Metal Oxide Doped UO2 Nuclear Fuel  
50.00%  $18,497.50  2012019

Sponsor: BWX Technology

Brinkman, Kyle S  
Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities  
4.55%  $79,625.00  2020199

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Brown, Philip J  
Mechanochromic Materials Research and Development Services  
45.00%  $67,499.10  2011634

Sponsor: Bureau of Engraving and Printing

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Materials Science & Engineering

Brown, Philip J  
Environmentally Sustainable Water and Oil Repellent Fabrics  
50.00%  $211,274.50  2011759
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wal-Mart Foundation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leidos, Inc.</td>
<td></td>
<td>Polymer Kelp</td>
</tr>
<tr>
<td>Department of Defense</td>
<td></td>
<td>MUST/DART DLA Assessment and Review Tool</td>
</tr>
<tr>
<td>Various Federal Agencies</td>
<td></td>
<td>Project Title is Confidential</td>
</tr>
<tr>
<td>Bureau of Engraving and Printing</td>
<td></td>
<td>Mechanochromic Materials Research and Development Services</td>
</tr>
<tr>
<td>Wal-Mart Foundation</td>
<td></td>
<td>Environmentally Sustainable Water and Oil Repellent Fabrics</td>
</tr>
<tr>
<td>Leidos, Inc.</td>
<td></td>
<td>Polymer Kelp</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td></td>
<td>RII Track-2 FEC: The Creation of Next Generation Tools for Neuroscience &amp; Noninvasive Radioluminescence Approaches to Optogenetics</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td></td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAREER: Light, Materials, Interaction! Integrating Research and Education from High school</td>
</tr>
</tbody>
</table>
Kennedy, Marian S  
Renewal REU Site: Interfaces and Surfaces  
40.00%  $44,000.00  2010481  
Sponsor: National Science Foundation

Kennedy, Marian S  
Clemson TIGERS ADVANCE  
Transforming the Institution through Gender Equity, Retention, and Support  
2.00%  $27,117.90  2011602  
Sponsor: National Science Foundation

Kornev, Konstantin German  
Mechanisms of Fluid Feeding in Insects, from Nanoscale to Organism  
50.00%  $99,545.50  2010169  
Sponsor: National Science Foundation

Kornev, Konstantin German  
Renewal REU Site: Interfaces and Surfaces  
3.30%  $3,630.00  2010481  
Sponsor: National Science Foundation

Kornev, Konstantin German  
Application of Magnetic Rotational Spectroscopy for nanoTesla Magnetic and Viscosity Sensors  
100.00%  $12,000.00  2021482  
Sponsor: SC Space Grant Consortium

Kornev, Konstantin German  
SC Space Grant Consortium Graduate Research Assistantship–Pavel Aprelev  
100.00%  $12,000.00  2022001  
Sponsor: SC Space Grant Consortium

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Materials Science & Engineering

Kuksenok, Olga  
Multi-scale Modeling of Critical Phenomena in Gels in Oil-Water Mixtures  
100.00%  $110,000.00  2011527  
Sponsor: American Chemical Society
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luzinov, Igor A.</td>
<td>Evaluation of Radiation-induced Photonic Defects in Silicon, Germanium, Chalcogenides, and Polymers</td>
<td>50.00%</td>
<td>$42,500.00</td>
<td>Massachusetts Institute of Technology</td>
</tr>
<tr>
<td>Luzinov, Igor A.</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Luzinov, Igor A.</td>
<td>Materials Research and Electrical Characterization of Polymer Tantalum Capacitors and Modules</td>
<td>40.00%</td>
<td>$18,907.20</td>
<td>Kemet Electronics Corporation</td>
</tr>
<tr>
<td>Luzinov, Igor A.</td>
<td>Molecularly Imprinted Fibers for Decaffeination - Continuation</td>
<td>100.00%</td>
<td>$66,016.00</td>
<td>Decaf Company, LLC</td>
</tr>
<tr>
<td>Luzinov, Igor A.</td>
<td>Characterization of Novel Polymer Materials with AFM</td>
<td>100.00%</td>
<td>$26,282.00</td>
<td>Oak Ridge National Laboratory</td>
</tr>
<tr>
<td>Mefford IV, Olin T</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>3.30%</td>
<td>$3,630.00</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Peng, Fei</td>
<td>Development of Gas Sensors for Analysis of Transformer Oil Dissolved Gases</td>
<td>30.00%</td>
<td>$120,000.00</td>
<td>Global Energy Interconnection Research Institute North America</td>
</tr>
<tr>
<td>Peng, Fei</td>
<td>The Stability of Uranium Oxide Doped with Cerium Oxide in Contact with Tungsten at High Temperatures</td>
<td>100.00%</td>
<td>$52,095.00</td>
<td>BWX Technology</td>
</tr>
<tr>
<td>Peng, Fei</td>
<td>Fabricating Sol-Gel Precursors for Rare Earth Metal Oxide Doped UO2 Nuclear Fuel</td>
<td>50.00%</td>
<td>$18,497.50</td>
<td>BWX Technology</td>
</tr>
</tbody>
</table>
Richardson, Kathleen Ann  
Evaluation of Radiation-induced Photonic Defects in Silicon, Germanium, Chalcogenides, and Polymers  
50.00%  $42,500.00  2009321  
Sponsor: Massachusetts Institute of Technology

Tong, Jianhua  
Direct Conversion of Methane to Ammonia and Ethylene by a Three-step Thermochemical Cyclic Process: Reduction, Nitridation, and Protonation  
100.00% $110,000.00  2011689  
Sponsor: American Chemical Society

Urban, Marek W  
Renewal REU Site: Interfaces and Surfaces  
3.30% $3,630.00  2010481  
Sponsor: National Science Foundation

Urban, Marek W  
Autonomous Self-Healing of Commodity Acrylic Copolymers  
100.00% $280,000.00  2012068  
Sponsor: National Science Foundation

Urban, Marek W  
All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control  
15.00% $74,128.65  2021621  
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Total: Materials Science & Engineering $6,643,075.55

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Mechanical Engineering

Bostwick, Joshua B  
Ultrasonic Soldering  
100.00% $25,000.00  2012067  
Sponsor: Harris Corporation

Choi, Hong Seok  
Modeling of Friction Element Welding Process  
33.00% $46,104.96  2011486  
Sponsor: Honda R&D Americas, Inc.

Figliola, Richard S  
Mini REAP 2016: Development of Next-Generation Ceramic-Matrix Composites via the  
100.00% $10,000.00  2021460
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Sponsor</th>
<th>Budget</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kung, Ethan</td>
<td>Assessment of the Jarvik 2000 Ventricular Assist Device Using the Physiology-Modeling Coupled Experiment</td>
<td>Jarvik Heart</td>
<td>100.00%</td>
<td>2012071</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$6,013.00</td>
<td></td>
</tr>
<tr>
<td>Li, Suyi</td>
<td>Feasibility of a Novel Fontan Right-Side Assist Device</td>
<td>Saving Tiny Hearts Society</td>
<td>100.00%</td>
<td>2021571</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$65,000.00</td>
<td></td>
</tr>
<tr>
<td>Li, Suyi</td>
<td>Collaborative Research: Uncovering the Dynamic Characteristics and Functionalities of Generic Origami Structures and Materials</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>2011468</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$192,604.00</td>
<td></td>
</tr>
<tr>
<td>Mocko, Gregory</td>
<td>Development of UAV for Scouting/Inspection</td>
<td>Brigham Young University</td>
<td>100.00%</td>
<td>2011192</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$13,000.00</td>
<td></td>
</tr>
<tr>
<td>Mocko, Gregory</td>
<td>Unassignable Cause Improvement</td>
<td>ZF North America</td>
<td>100.00%</td>
<td>2011676</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$15,800.00</td>
<td></td>
</tr>
<tr>
<td>Mocko, Gregory</td>
<td>South Carolina Rapid Innovation Laboratory (SCRIL)</td>
<td>SC Dept of Commerce</td>
<td>10.00%</td>
<td>2011846</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$22,666.60</td>
<td></td>
</tr>
<tr>
<td>Mocko, Gregory</td>
<td>Augmented Associate: Electrical Connector Quality</td>
<td>BMW Manufacturing Corporation</td>
<td>25.00%</td>
<td>2012092</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$30,000.00</td>
<td></td>
</tr>
<tr>
<td>Myers, Oliver J</td>
<td>Investigations of Functional Bistable Composite Laminate Structures</td>
<td>SC EPSCOR</td>
<td>100.00%</td>
<td>2012003</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$10,000.00</td>
<td></td>
</tr>
<tr>
<td>Ochterbeck, Jay M</td>
<td>Explore a Unified, Ultra-efficient, and Gravity-insensitive Flow Boiling Pattern for Space</td>
<td></td>
<td>100.00%</td>
<td>2020408</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$70,000.00</td>
<td></td>
</tr>
</tbody>
</table>
Missions

**Sponsor:** University of South Carolina

**Pataky, Garrett J**
Fatigue Testing for Steel Alloys  
**Sponsor:** Boeing

100.00%  $43,649.00  2011734

**Saylors, John R**
DPM Research: Monitoring Responses to Ventilation and Control by Water Sprays, and Capacity Building for Mine Ventilation Expertise  
**Sponsor:** Virginia Polytechnic Institute and State University

100.00%  $23,211.00  2010289

**Saylors, John R**
Removal of DPM, Silica, and Coal Dust Using High Volume Fog Generation  
**Sponsor:** Alpha Foundation

50.00%  $289,802.00  2011692

**Schkoda, Ryan F**
Services Agreement: GE Drivetrain Testing  
**Sponsor:** General Electric (GE)

100.00%  $1,440,000.00  1401130

**COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

**Mechanical Engineering**

**Summers, Joshua D.**  
T6.04-980 Self-Sustaining Crop Production Unit  
**Sponsor:** Freight Farms

34.00%  $18,382.10  2011695

**Summers, Joshua D.**  
TTi 2016: Oil Pulse Driver Modeling and Analysis  
**Sponsor:** One World Technologies, Inc.

50.00%  $41,115.50  2011740

**Summers, Joshua D.**  
South Carolina Rapid Innovation Laboratory (SCRIL)  
**Sponsor:** SC Dept of Commerce

10.00%  $22,666.60  2011846

**Summers, Joshua D.**  
Workshop: Summer School on Methods for Case, Protocol, and Controlled-experiment Research on Design and Systems Engineering  

100.00%  $49,870.00  2011919
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Title</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Science Foundation</td>
<td>Augmented Associate: Electrical Connector Quality</td>
<td>25.00%</td>
<td>$30,000.00</td>
<td>2012092</td>
</tr>
<tr>
<td>BMW Manufacturing Corporation</td>
<td>MiniREAP 2016: Thermal/Energy Controls Design and Optimization</td>
<td>34.00%</td>
<td>$3,400.00</td>
<td>2021456</td>
</tr>
<tr>
<td>SC Space Grant Consortium</td>
<td>Mechanics of Locomotion with Nonholonomic Constraints in a Fluid</td>
<td>100.00%</td>
<td>$300,000.00</td>
<td>2011434</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Investigation of multi-point Monin-Obukhov similarity and spectral dynamics</td>
<td>100.00%</td>
<td>$118,349.00</td>
<td>2011265</td>
</tr>
<tr>
<td>Freight Farms</td>
<td>T6.04-980 Self-Sustaining Crop Production Unit</td>
<td>33.00%</td>
<td>$17,841.45</td>
<td>2011695</td>
</tr>
<tr>
<td>SC Space Grant Consortium</td>
<td>MiniREAP 2016: Thermal/Energy Controls Design and Optimization</td>
<td>33.00%</td>
<td>$3,300.00</td>
<td>2021456</td>
</tr>
<tr>
<td>University of Michigan</td>
<td>Improving Mobility of Off-Road Connected Fleets: Experimental Verification</td>
<td>100.00%</td>
<td>$86,444.00</td>
<td>2010787</td>
</tr>
<tr>
<td>Department of Transportation</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>3.60%</td>
<td>$42,066.00</td>
<td>2021810</td>
</tr>
<tr>
<td></td>
<td>A Multi-Function/Multi-Fuel ThermoAcoustic Generator/Heat Pump (TAG/HP) for</td>
<td>30.00%</td>
<td>$90,000.00</td>
<td>2010037</td>
</tr>
</tbody>
</table>
Sponsor: US Navy

Wagner, John R  
Removal of DPM, Silica, and Coal Dust Using High Volume Fog Generation  
50.00% $289,802.00  2011692

Sponsor: Alpha Foundation

Wagner, John R  
T6.04-980 Self-Sustaining Crop Production Unit  
33.00% $17,841.45  2011695

Sponsor: Freight Farms

Wagner, John R  
TTi 2016: Oil Pulse Driver Modeling and Analysis  
50.00% $41,115.50  2011740

Sponsor: One World Technologies, Inc.

COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

Mechanical Engineering

Wagner, John R  
MiniREAP 2016: Thermal/Energy Controls Design and Optimization  
33.00% $3,300.00  2021456

Sponsor: SC Space Grant Consortium

Wang, Yue  
Trust-based Human-Robot Collaboration (HRC) for High-Level Distributed Multi-Robot Motion Planning with Temporal Logic Constraints  
100.00% $120,000.00  2011243

Sponsor: US AIR FORCE

Zhao, Huijuan  
All-Digital Plug and Play Passive RFID Sensors for Energy Efficient Building Control  
20.00% $98,838.20  2011621

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Zhao, Xin  
Modeling of Friction Element Welding Process  
33.00% $46,104.96  2011486

Sponsor: Honda R&D Americas, Inc.

Total: Mechanical Engineering $3,743,287.32
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Amount</th>
<th>Sponsor</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apon, Amy W.</td>
<td>EAGER: Characterization, Prediction, and Management of Latency Variation in Virtualized HPC and Warehouse Scale Systems</td>
<td>100.00%</td>
<td>National Science Foundation</td>
<td>2011459</td>
</tr>
<tr>
<td>Apon, Amy W.</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>2.00%</td>
<td>National Science Foundation</td>
<td>2011586</td>
</tr>
<tr>
<td>Apon, Amy W.</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>11.00%</td>
<td>Department of Transportation</td>
<td>2021810</td>
</tr>
<tr>
<td>Babu, Sabarish Venkat</td>
<td>Usability Assessment of a Patient-centered Mobile Health Application (iHeartU) for Self-management of Heart Failure</td>
<td>30.00%</td>
<td>Greenville Health System (GHS)</td>
<td>2011915</td>
</tr>
<tr>
<td>Caine, Kelly E</td>
<td>III: Small: Collaborative Research: Privacy-aware Collaborative Data Sharing in Human-centered Social Networks</td>
<td>50.00%</td>
<td>National Science Foundation</td>
<td>2010939</td>
</tr>
<tr>
<td>Caine, Kelly E</td>
<td>CSR: Large: Collaborative Research: Smart Earpiece for Supporting Healthy Eating Behaviors</td>
<td>50.00%</td>
<td>National Science Foundation</td>
<td>2011521</td>
</tr>
<tr>
<td>Caine, Kelly E</td>
<td>CI-New: Collaborative Research: HomeSHARE - Home-based Smart Health Applications across Research Environments</td>
<td>100.00%</td>
<td>National Science Foundation</td>
<td>2011522</td>
</tr>
<tr>
<td>Caine, Kelly E</td>
<td>ABR: Collaborative research: Computational Jewelry for Mobile Health</td>
<td>50.00%</td>
<td>National Science Foundation</td>
<td>2011561</td>
</tr>
<tr>
<td>Ge, Rong</td>
<td>CAREER: Cross-Layer Power-Bounded High Performance Computing on Emerging and Future Heterogeneous Computer Clusters</td>
<td>100.00%</td>
<td>National Science Foundation</td>
<td>2011076</td>
</tr>
</tbody>
</table>
### Sponsor: National Science Foundation

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ge, Rong</td>
<td>Develop, Improve, and Maintain the Parallel Fine-Grained Soft Error Fault Injector</td>
<td>National Security Agency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goddard, Wayne D</td>
<td>Mini-Conference on Discrete Mathematics and Algorithms</td>
<td>National Security Agency</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES

#### School of Computing

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hu, Hongxin</td>
<td>III: Small: Collaborative Research: Privacy-aware Collaborative Data Sharing in Human-centered Social Networks</td>
<td>National Science Foundation</td>
<td>$8,000.00</td>
<td>2010939</td>
</tr>
<tr>
<td>Hu, Hongxin</td>
<td>Collaborative Research: CICL: Secure and Resilient Architecture: SciGuard: Building a Security Architecture for Science DMZ based on SDN and NFV Technologies</td>
<td>National Science Foundation</td>
<td>$199,922.00</td>
<td>2011531</td>
</tr>
<tr>
<td>Hu, Hongxin</td>
<td>Collaborative Research: CICL: Regional: SouthEast Scientifc Cybersecurity for University REsearch (SouthEast SECURE)</td>
<td>National Science Foundation</td>
<td>$15,800.40</td>
<td>2011610</td>
</tr>
<tr>
<td>Hu, Hongxin</td>
<td>SDI-CSICS: Collaborative Research: S2OS: Enabling Infrastructure-wide Programmable Security with SDI</td>
<td>National Science Foundation</td>
<td>$129,064.00</td>
<td>2011946</td>
</tr>
<tr>
<td>Hu, Hongxin</td>
<td>SDI-CSICS: Collaborative Research: S2OS: Enabling Infrastructure-wide Programmable Security with SDI</td>
<td>Vanguard Charitable</td>
<td>$64,512.00</td>
<td>2012070</td>
</tr>
<tr>
<td>Hu, Hongxin</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td>Vanguard Charitable</td>
<td>$42,066.00</td>
<td>2021810</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: Department of Transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joerg, Christina Sophie</td>
<td>REU Supplement- CAREER: Perceptually Guided Hand Motion Synthesis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joerg, Christina Sophie</td>
<td>The Effect of Virtual Hands and Their Motions in Virtual Reality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: Oculus, VR, LLC</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knijnenburg, Burt</td>
<td>Privacy Support for TLA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: US ARMY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knijnenburg, Burt</td>
<td>EAGER: Collaborative: PRICE: Using Process Tracing to Improve Household IoT Users; Privacy Decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kraemer, Eileen Theresa</td>
<td>IUSE: Understanding and Propagating the Essence of Successful Computing Education Projects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luo, Feng</td>
<td>Selection, Molecular and Genetic Analysis of HLB Tolerant/Resistant Variant Citrus Plants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martin, James J</td>
<td>REU Supplement- US Ignite: Track 1: Enabling Connected Vehicle Applications through Advanced Network Technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Martin, James J</td>
<td>Center for Connected Multimodal Mobility (C2M2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor: Department of Transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McClendon, Jerome L</td>
<td>South Carolina Rapid Innovation Laboratory (SCRIL)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Grant Number</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>SC Dept of Commerce</td>
<td>McGregor, John D South Carolina Rapid Innovation Laboratory (SCRIL)</td>
<td>10.00%</td>
<td>$22,666.60</td>
<td>2011846</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLLEGE OF ENGINEERING, COMPUTING &amp; APPLIED SCIENCES</td>
<td>School of Computing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>McGregor, John D Center for Connected Multimodal Mobility (C2M2)</td>
<td>3.00%</td>
<td>$42,066.00</td>
<td>2021810</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ngo, Linh Bao Sampling Rare Events In Aqueous Systems Using Molecular Simulations</td>
<td>4.00%</td>
<td>$1,897.04</td>
<td>2011236</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pargas, Roy P Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy</td>
<td>30.00%</td>
<td>$39,834.30</td>
<td>2021923</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safro, Ilya Mark EAGER: Feedback-based Network Optimization for Smart Cities</td>
<td>50.00%</td>
<td>$75,537.00</td>
<td>2011506</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safro, Ilya Mark CRISP Type 1: Data-driven Real-time Simulation for Adaptive Control of Interdependent Infrastructure Systems</td>
<td>18.00%</td>
<td>$89,976.60</td>
<td>2011678</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sitaraman, Murali IUSE: Understanding and Propagating the Essence of Successful Computing Education Projects</td>
<td>20.00%</td>
<td>$8,256.00</td>
<td>2011484</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sorber, Jacob M CAREER: Enabling Low-Cost, Maintenance-Free, Long-Term Embedded Sensing Without Batteries</td>
<td>100.00%</td>
<td>$102,756.00</td>
<td>2010519</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project ID</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Sorber, Jacob M: Collaborative Research: Smart Earpiece for Supporting Healthy Eating Behaviors</td>
<td>50.00%</td>
<td>$115,138.50</td>
<td>2011521</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Sorber, Jacob M: ABR: Collaborative research: Computational Jewelry for Mobile Health</td>
<td>50.00%</td>
<td>$114,084.50</td>
<td>2011561</td>
</tr>
<tr>
<td>Department of Defense</td>
<td>Tessendorf, Jerry A: GPU Applications for TrueView Scene Simulation</td>
<td>100.00%</td>
<td>$98,466.00</td>
<td>2011476</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Zordan, Victor B: III: CGV: Medium: Collaborative Research: Computational Design and 3D Printing of Textiles - Transfer</td>
<td>100.00%</td>
<td>$57,172.00</td>
<td>2011730</td>
</tr>
</tbody>
</table>

**Total: School of Computing**

**TOTAL: COLLEGE OF ENGINEERING, COMPUTING & APPLIED SCIENCES**

$7,627,414.52

$54,000,082.36

**COLLEGE OF SCIENCE**

**Biological Sciences**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Institutes of Health/DHHS</td>
<td>Bain, Lisa J: Mechanisms of Long-term Arsenic Exposure on Stem Cells</td>
<td>100.00%</td>
<td>$366,371.00</td>
<td>2011795</td>
</tr>
<tr>
<td>National Institutes of Health/DHHS</td>
<td>Baldwin, William S: Does the inhibition of key xenobiotic-metabolizing CYPs cause obesity?</td>
<td>100.00%</td>
<td>$361,775.00</td>
<td>2011533</td>
</tr>
<tr>
<td>Binational Ag Res &amp; Dev (BARD)</td>
<td>Bielenberg, Douglas G: Understanding the Molecular Basis of Carotenoid Synthesis and Accumulation in Stone Fruit: A Platform to Enhance Fruit Value</td>
<td>30.00%</td>
<td>$45,000.00</td>
<td>2011682</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Bielenberg, Douglas G</td>
<td>Short and Long-term Solutions for Armillaria Root Rot in Prunus</td>
<td>Pennsylvania Department of Agriculture</td>
<td>5.00%</td>
<td>$44,410.50</td>
</tr>
<tr>
<td>Campbell, Barbara J</td>
<td>Dimensions: Collaborative Proposal: Functional Diversity of Chemosymbiosis in Lucinid Bivalves from Coastal Biomes</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$73,233.00</td>
</tr>
<tr>
<td>Campbell, Barbara J</td>
<td>RAPID: Cascading of Extreme Events (Drought-Wildfire) in a Pristine Watershed Located in the Southeast US: Implication on Hydrology, Water Quality and Microbial Communities</td>
<td>National Science Foundation</td>
<td>50.00%</td>
<td>$24,990.00</td>
</tr>
<tr>
<td>Cao, Min</td>
<td>Effects of Concord Grape Extract, Aronia Berry Extract, and Cranberry Extract on High-Fat Diet-Induced Non-Alcoholic Fatty Liver Disease in the Rodent Model</td>
<td>Naturex-DBS, LLC</td>
<td>40.00%</td>
<td>$6,400.00</td>
</tr>
<tr>
<td>Chapman, Susan Caroline</td>
<td>Creatine: a novel modulator of GABA inhibitory synapses</td>
<td>National Institutes of Health/DHHS</td>
<td>25.00%</td>
<td>$18,750.00</td>
</tr>
<tr>
<td>DeWalt, Saara J</td>
<td>Intraspecific Functional Trait Variation Among Populations of Common Species of the Longleaf Pine Ecosystem</td>
<td>Department of Agriculture</td>
<td>100.00%</td>
<td>$37,164.00</td>
</tr>
<tr>
<td>DeWalt, Saara J</td>
<td>Genetic Structure in Native Plants: Foundational Information for Developing Plant Materials Transfer Zones</td>
<td>Department of Agriculture</td>
<td>100.00%</td>
<td>$11,000.00</td>
</tr>
<tr>
<td>Dong, Yuqing</td>
<td>Effects of Concord Grape Extract, Aronia Berry Extract, and Cranberry Extract on High-Fat Diet-Induced Non-Alcoholic Fatty Liver Disease in the Rodent Model</td>
<td>Naturex-DBS, LLC</td>
<td>60.00%</td>
<td>$9,600.00</td>
</tr>
</tbody>
</table>

**COLLEGE OF SCIENCE**

**Biological Sciences**
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Sponsor</th>
<th>Status</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dou, Zhicheng</td>
<td>Regulation of Proteolytic Activity within a Digestive Vacuole in Toxoplasma Gondii, the most common Pathogen causing Infectious Posterior Uveitis in Infants and Children.</td>
<td>Knights Templar Eye Foundation</td>
<td>100.00%</td>
<td>$65,000.00</td>
<td>2011927</td>
</tr>
<tr>
<td>Feliciano, David M</td>
<td>SLC7A5-MTOR Regulation of Neural Development</td>
<td>National Institutes of Health/DHHS</td>
<td>100.00%</td>
<td>$442,241.00</td>
<td>2011539</td>
</tr>
<tr>
<td>Hains Jr, John Jenkins</td>
<td>Program Management for the South Carolina Water Resources Center</td>
<td>USDI (US DEPARTMENT OF THE INTERIOR)</td>
<td>25.00%</td>
<td>$1,172.00</td>
<td>2098383</td>
</tr>
<tr>
<td>Klainc, Stephen J</td>
<td>Protecting Pollinators with Economically Feasible and Environmentally Sound Ornamental Horticulture</td>
<td>Rutgers, the State University of New Jersey</td>
<td>21.00%</td>
<td>$62,396.25</td>
<td>2011807</td>
</tr>
<tr>
<td>McNealy, Tamara Lyn</td>
<td>SRR Account</td>
<td>Various Private Sponsors (245)</td>
<td>100.00%</td>
<td>$2,600.00</td>
<td>1980362</td>
</tr>
<tr>
<td>Mount, Andrew S</td>
<td>New Fouling Deterrent Strategies to Defeat Barnacle Biofouling</td>
<td>US Navy</td>
<td>100.00%</td>
<td>-$13.00</td>
<td>2010018</td>
</tr>
<tr>
<td>Mount, Andrew S</td>
<td>Experimental studies of the effect of acidification on plankton, IMR Project # 14591-02</td>
<td>Institute for Marine Research</td>
<td>100.00%</td>
<td>$12,000.00</td>
<td>2011031</td>
</tr>
<tr>
<td>Mount, Andrew S</td>
<td>Radio Astronomy of the 2017 Total Solar Eclipse over South Carolina</td>
<td>SC Space Grant Consortium</td>
<td>100.00%</td>
<td>$3,750.00</td>
<td>2021894</td>
</tr>
<tr>
<td>Richards, Vincent Paul</td>
<td>Probiotics that moderate pH and antagonize pathogens to promote oral health</td>
<td>University of Florida (FDP)</td>
<td>100.00%</td>
<td>$41,195.00</td>
<td>2011318</td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project Number</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------</td>
<td>------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>Richards, Vincent Paul</td>
<td>National Needs Training in Computationally Intensive Genomic Analysis and Application</td>
<td>Department of Agriculture</td>
<td>20.00%</td>
<td>$47,700.00</td>
<td>2021477</td>
</tr>
<tr>
<td>Scott, Simon W</td>
<td>Atlantic Coast Camellias - SRR</td>
<td>Various Private Sponsors (245)</td>
<td>100.00%</td>
<td>$2,000.00</td>
<td>1980295</td>
</tr>
<tr>
<td>Scott, Simon W</td>
<td>Southeastern Budwood Program</td>
<td>Department of Agriculture</td>
<td>100.00%</td>
<td>$110,340.00</td>
<td>2021458</td>
</tr>
<tr>
<td>Sears, Michael W</td>
<td>NSF Graduate Research Fellowship - Michael Carlo</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$46,000.00</td>
<td>2010705</td>
</tr>
<tr>
<td>Temesvari, Lesly</td>
<td>Translational Control of Encystation in the Entamoebae</td>
<td>National Institutes of Health/DHHS</td>
<td>100.00%</td>
<td>$200,020.00</td>
<td>2010809</td>
</tr>
<tr>
<td>Temesvari, Lesly</td>
<td>COBRE: Eukaryotic Pathogens Innovation Center (EPIC)</td>
<td>National Institutes of Health/DHHS</td>
<td>50.00%</td>
<td>$960,600.50</td>
<td>2011955</td>
</tr>
<tr>
<td>Tonkyn, David W</td>
<td>The Persistence of American Pika (Ochotona Princeps) in the Greater Yellowstone Ecosystem in a Future, Warmer World</td>
<td>University of Wyoming</td>
<td>100.00%</td>
<td>$5,000.00</td>
<td>2011463</td>
</tr>
</tbody>
</table>

**COLLEGE OF SCIENCE**

**Biological Sciences**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tzeng, Tzuen-Rong Jeremy</td>
<td>Detecting and Monitoring Implant Infection with X-ray Excited Luminescence Chemical Imaging (XELCI)</td>
<td>National Institutes of Health/DHHS</td>
<td>25.00%</td>
<td>$76,577.75</td>
<td>2011457</td>
</tr>
<tr>
<td>Tzeng, Tzuen-Rong Jeremy</td>
<td>PFI: AIR-TT: Translation of Multimodal Membrane Adsorbers for Protein Purifications</td>
<td>National Institutes of Health/DHHS</td>
<td>20.00%</td>
<td>$40,000.00</td>
<td>2011569</td>
</tr>
</tbody>
</table>
### Sponsor: National Science Foundation

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Title</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tzeng, Tzuen-Rong Jeremy</td>
<td>Novel Natural Antioxidants Extracted from Animal Red Blood Cells</td>
<td>100.00%</td>
<td>$8,000.00</td>
</tr>
<tr>
<td>Van den Hurk, Peter</td>
<td>Microplastic Contamination in Coastal South Carolina: Sources, Trophic Transfer, and Abundance in Biota</td>
<td>100.00%</td>
<td>$85,034.00</td>
</tr>
<tr>
<td>Whitehead, Kristi James</td>
<td>JDRF Supplement - Inhibition of Gut Microbial Polysaccharide Metabolism as a Novel Potential Therapeutic for the Prevention of Autoimmunity Associated with Type-I Diabetes</td>
<td>50.00%</td>
<td>$5,000.00</td>
</tr>
</tbody>
</table>

**Total: Biological Sciences**

$3,215,307.00

### Chemistry

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Title</th>
<th>Amount</th>
<th>Project Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anker, Jeffrey Nathan</td>
<td>Renewal REU Site: Interfaces and Surfaces</td>
<td>3.30%</td>
<td>$3,630.00</td>
</tr>
<tr>
<td>Anker, Jeffrey Nathan</td>
<td>Developing a Luminescent Tension-indicating Orthopedic Screw</td>
<td>50.00%</td>
<td>$87,167.50</td>
</tr>
<tr>
<td>Anker, Jeffrey Nathan</td>
<td>Detecting and Monitoring Implant Infection with X-ray Excited Luminescence Chemical Imaging (XELCI)</td>
<td>45.00%</td>
<td>$137,839.95</td>
</tr>
<tr>
<td>Anker, Jeffrey Nathan</td>
<td>RII Track-2 FEC: The Creation of Next Generation Tools for Neuroscience &amp; Noninvasive Radioluminescence Approaches to Optogenetics</td>
<td>30.00%</td>
<td>$1,800,000.00</td>
</tr>
<tr>
<td>Anker, Jeffrey Nathan</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC)</td>
<td>5.00%</td>
<td>$111,005.30</td>
</tr>
</tbody>
</table>
BioCRAFT

Sponsor: National Institutes of Health/DHHS

Arya, Dev Priya
Development of Peptide Antibiotic Nucleic Acids
100.00% $17,251.00 2010278

Sponsor: NUBAD, LLC

Arya, Dev Priya
Screening the Ribosome for New Target Sites
100.00% $170,270.00 2011509

Sponsor: NUBAD, LLC

Arya, Dev Priya
Aminoglycosides with Reduced Ototoxicity
100.00% $163,835.00 2011529

Sponsor: NUBAD, LLC

Brumaghim, Julia
Evaluation of Polyphenol Antioxidants to Lower Redox-Active Iron Levels and Prevent Cellular Oxidative Damage
100.00% $25,000.00 2022065

Sponsor: SC Space Grant Consortium

Creager, Stephen E
Water Isotope Separation Testing
100.00% $36,004.00 2010873

Sponsor: SCUREF

COLLEGE OF SCIENCE

Chemistry

Dominy, Brian N
Creatine: a novel modulator of GABA inhibitory synapses
25.00% $18,750.00 2011439

Sponsor: National Institutes of Health/DHHS

Garcia Perez, Carlos Diego
REU Site: Summer Undergraduate Research Program at Clemson University
33.00% $103,950.00 2011892

Sponsor: National Science Foundation

Garcia Perez, Carlos Diego
Assessing the Relevance of Protein Immobilization for the Rational Design of Paper-Based
100.00% $20,000.00 2011903
Analytical Devices

Sponsor: Greenville Health System (GHS)

Houjeiry, Tania Issa

REU Site: Summer Undergraduate Research Program at Clemson University

Sponsor: National Science Foundation

Kolis, Joseph W

Synthesis and Single Crystals of Refractory Oxides of Lanthanides and Thorium

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Kolis, Joseph W

RII Track-2 FEC: The Creation of Next Generation Tools for Neuroscience & Noninvasive Radioluminescence Approaches to Optogenetics

Sponsor: National Science Foundation

Kolis, Joseph W

Hydrothermal Cladding of Single Crystal Fibers of Yb Doped YAG

Sponsor: Sotera Defense Solutions

Kolis, Joseph W

Growth of Deep UV Non-Linear Optical Crystals for Testing and Evaluation

Sponsor: FEIRA Co. Ltd

Marcus, Richard K

Liquid Sampling-Ambient Pressure Glow Discharge (LS-APGD) Microplasmas for Elemental, Isotopic, and Molecular Determinations - additional funds

Sponsor: Defense Threat Reduction Agency

Marcus, Richard K

SRNL External Review of Select Competencies: Environmental Science and Engineering, Chemistry and Radiochemistry, Materials Science and Engineering, and Separations Science and Engineering

Sponsor: Savannah River National Laboratory

Marcus, Richard K

Capillary Channeled Polymer Structures and Chemistries for High Throughput Measurement of Large Molecules

Sponsor: National Science Foundation

Marcus, Richard K

GD-MS Source and C-CP Columns

Sponsor: National Science Foundation

Marcus, Richard K
Sponsor: Merck & Company

Marcus, Richard K  
SRNL, External Review Committee (ERC)  
75.00%  $54,466.50  2011926

Sponsor: Savannah River Nuclear Solutions

Pennington, Jr., William T  
REU Site: Summer Undergraduate Research Program at Clemson University  
34.00%  $107,100.00  2011892

Sponsor: National Science Foundation

Perahia, Dvora  
Computational-Experimental Insight across Time and Length Scales of Dynamics in Ionic Polymers  
100.00%  $284,000.00  2011203

Sponsor: National Science Foundation

Saha, Sourav  
Reversible Anion and Ion-Pair Recognition under Electronic Control  
100.00%  $326,427.00  2011588

Sponsor: National Science Foundation

**COLLEGE OF SCIENCE**

**Chemistry**

Smith, Rhett C  
SusChEM: Sustainable Materials from Combined Inorganic and Organic Waste Precursors  
61.00%  $70,150.00  2011974

Sponsor: National Science Foundation

Sun, Ya-ping  
Exploration of Carbon-Based Hybrid Nanoarchitectures as a Unique Platform for Managing Excited State Energies and Processes  
100.00%  $114,445.00  2011403

Sponsor: US AIR FORCE

Sun, Ya-ping  
Carbon Dots for Energy Conversion and Storage Applications  
100.00%  $60,000.00  2011785

Sponsor: University of Dayton

Sun, Ya-ping  
Palmetto Academy 2017: Student Participation in Developing Nanomaterials-Derived Technologies for Space Applications  
100.00%  $24,000.00  2022049
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Award No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC Space Grant Consortium</td>
<td>SusChEM: Sustainable Materials from Combined Inorganic and Organic Waste Precursors</td>
<td>39.00%</td>
<td>$44,850.00</td>
<td>2011974</td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>Synthesis of a Propene Compound</td>
<td>100.00%</td>
<td>$51,800.00</td>
<td>2011594</td>
</tr>
<tr>
<td>Leidos, Inc.</td>
<td>Synthesis of a Propene Compound</td>
<td>100.00%</td>
<td>$58,130.00</td>
<td>2011798</td>
</tr>
<tr>
<td>Leidos, Inc.</td>
<td>Creatine: a novel modulator of GABA inhibitory synapses</td>
<td>25.00%</td>
<td>$18,750.00</td>
<td>2011439</td>
</tr>
<tr>
<td>National Institutes of Health/DHHS</td>
<td>JDRF Supplement - Inhibition of Gut Microbial Polysaccharide Metabolism as a Novel Potential Therapeutic for the Prevention of Autoimmunity Associated with Type-1 Diabetes</td>
<td>50.00%</td>
<td>$5,000.00</td>
<td>2011114</td>
</tr>
<tr>
<td>Juvenile Diabetes Research Foundation International</td>
<td>Modified Natural Materials for Rendering Applications</td>
<td>50.00%</td>
<td>$38,500.00</td>
<td>2011943</td>
</tr>
<tr>
<td>Fats and Proteins Research Foundation, Inc.</td>
<td>New Generation DelPhi: Large Systems and Beyond Electrostatics</td>
<td>20.00%</td>
<td>$72,675.40</td>
<td>2011347</td>
</tr>
<tr>
<td>National Institutes of Health/DHHS</td>
<td>Total: Chemistry</td>
<td></td>
<td><strong>$6,533,924.05</strong></td>
<td></td>
</tr>
<tr>
<td>Clemson Light Imaging Facility</td>
<td>South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT)</td>
<td>5.00%</td>
<td>$111,005.30</td>
<td>2097563</td>
</tr>
</tbody>
</table>
### Genetics and Biochemistry

| Sponsor: National Institutes of Health/DHHS |
|---|---|---|
| Total: Clemson Light Imaging Facility | $111,005.30 |

#### Cao, Weiguo

| Inhibition of Human Islet Amyloid Polypeptide Aggregation | 25.00% | $180,607.00 | 2011570 |
| Sponsor: National Institutes of Health/DHHS |

| New Enzymes for DNA Demethylation | 100.00% | $456,500.00 | 2011753 |
| Sponsor: National Institutes of Health/DHHS |

### COLLEGE OF SCIENCE

#### Genetics and Biochemistry

| Sponsor: Collie Health Foundation |
|---|---|---|

#### Clark, Leigh Anne

| Do Additional Genes Play a Role in the Development of Dermatomyositis in Collies Having Moderate Risk Genotypes? | 100.00% | $41,931.00 | 2011958 |
| Sponsor: Collie Health Foundation |

#### Feltus, Frank Alexander

| Tripal Gateway: Platform for Next-Generation Data Analysis and Sharing | 75.00% | $1,687.50 | 2010428 |
| Sponsor: Washington State University |

#### Feltus, Frank Alexander

| CC*Data: National Cyberinfrastructure for Scientific Data Analysis at Scale (SciDAS) | 50.00% | $1,476,108.50 | 2011806 |
| Sponsor: National Science Foundation |

#### Frugoli, Julia

| MCA-PGR: Spatial and Temporal Resolution of mRNA Profiles During Early Nodule Development | 100.00% | $610,774.00 | 2011122 |
| Sponsor: National Science Foundation |

#### Frugoli, Julia

<p>| Clemson TIGERS ADVANCE: Transforming the Institution through Gender Equity, Retention, and Support | 2.00% | $27,117.90 | 2011602 |</p>
<table>
<thead>
<tr>
<th>Sponsor: National Science Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawton Rauh, Amy Louise</td>
</tr>
<tr>
<td>Population Genetics of Glyphosate Resistance in Palmer Amaranth Across the United States</td>
</tr>
<tr>
<td>Sponsor: Cotton Incorporated</td>
</tr>
<tr>
<td>Lawton Rauh, Amy Louise</td>
</tr>
<tr>
<td>Computational Resources for Genome Prediction in SC Peach</td>
</tr>
<tr>
<td>Sponsor: SC Peach Council &amp; Promotion Board</td>
</tr>
<tr>
<td>Lawton Rauh, Amy Louise</td>
</tr>
<tr>
<td>RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars</td>
</tr>
<tr>
<td>Sponsor: Michigan State University</td>
</tr>
<tr>
<td>Lawton Rauh, Amy Louise</td>
</tr>
<tr>
<td>National Needs Training in Computationally Intensive Genomic Analysis and Application</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
</tr>
<tr>
<td>Liang, Haiying</td>
</tr>
<tr>
<td>Development of a Refined Micropropagation Protocol for Peach Planting Stock</td>
</tr>
<tr>
<td>Sponsor: SC Peach Council &amp; Promotion Board</td>
</tr>
<tr>
<td>Luo, Hong</td>
</tr>
<tr>
<td>Genetic Engineering of Ornamental Plants for Resistance to Deer Damage</td>
</tr>
<tr>
<td>Sponsor: Wyatt Farms, LLC</td>
</tr>
<tr>
<td>Luo, Hong</td>
</tr>
<tr>
<td>Modification of Plant Stress-Related Genes in Tobacco for Enhanced Plant Performance Under Adverse Environmental Conditions</td>
</tr>
<tr>
<td>Sponsor: R.J. Reynolds Tobacco</td>
</tr>
<tr>
<td>Morris, James C</td>
</tr>
<tr>
<td>Identification of Kinetoplastid Parasite Glucose Uptake and Subcellular Localization Inhibitors as Therapeutic Leads</td>
</tr>
<tr>
<td>Sponsor: National Institutes of Health/DHHS</td>
</tr>
<tr>
<td>Morris, Meredith Teillhet</td>
</tr>
<tr>
<td>The Cell Biology of Eukaryotic Pathogens Symposium</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
</tr>
</tbody>
</table>

- Sponsor: National Science Foundation
- Sponsor: Cotton Incorporated
- Sponsor: SC Peach Council & Promotion Board
- Sponsor: Michigan State University
- Sponsor: Department of Agriculture
- Sponsor: SC Peach Council & Promotion Board
- Sponsor: Wyatt Farms, LLC
- Sponsor: R.J. Reynolds Tobacco
- Sponsor: National Institutes of Health/DHHS
- Sponsor: National Science Foundation
<table>
<thead>
<tr>
<th>Sponsor: National Institutes of Health/DHHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith, Kerry S.</td>
</tr>
<tr>
<td>COBRE: Eukaryotic Pathogens Innovation Center (EPIC)</td>
</tr>
<tr>
<td>Sponsor: National Institutes of Health/DHHS</td>
</tr>
<tr>
<td>Total: Genetics and Biochemistry</td>
</tr>
</tbody>
</table>

### COLLEGE OF SCIENCE

#### Mathematical Sciences

<table>
<thead>
<tr>
<th>Adams, Warren P</th>
<th>New RLT Theory for Solving Continuous Nonlinear and Mixed-Discrete Optimization Problems</th>
<th>100.00%</th>
<th>$104,512.00</th>
<th>2011131</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor: US Navy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adams, Warren P</td>
<td>ONR IPA</td>
<td>100.00%</td>
<td>$451,246.00</td>
<td>2022062</td>
</tr>
<tr>
<td>Sponsor: US Navy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridges Jr, William C</td>
<td>Breeding High Yielding Bioenergy Sorghum for the New Bioenergy Belt</td>
<td>10.00%</td>
<td>$14,999.80</td>
<td>2020937</td>
</tr>
<tr>
<td>Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridges Jr, William C</td>
<td>National Needs Training in Computationally Intensive Genomic Analysts and Application</td>
<td>20.00%</td>
<td>$47,700.00</td>
<td>2021477</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown, Derek A</td>
<td>Simulation-Based Design of Polymer Nanocomposites for Structural Applications</td>
<td>30.00%</td>
<td>$133,117.20</td>
<td>2011507</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown, James L</td>
<td>Number Theory Meetings in the Southeast</td>
<td>34.00%</td>
<td>$7,559.22</td>
<td>2011762</td>
</tr>
<tr>
<td>Sponsor: National Science Foundation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Gao, Xuhong</td>
<td>AP: Medium: Collaborative Research: Sparse Polynomials, Complexity, and Algorithms</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$86,873.00</td>
</tr>
<tr>
<td>Gupte, Akshay Sunil</td>
<td>Heterogenous Quadratic Programs for Decision Making under Uncertainty and Conflict</td>
<td>US Navy</td>
<td>50.00%</td>
<td>$71,824.50</td>
</tr>
<tr>
<td>Heister, Timo Johannes</td>
<td>Computational Infrastructure for Geodynamics</td>
<td>University of California, Davis (FDP)</td>
<td>100.00%</td>
<td>$35,065.00</td>
</tr>
<tr>
<td>James, Kevin L.</td>
<td>Number Theory Meetings in the Southeast</td>
<td>National Science Foundation</td>
<td>33.00%</td>
<td>$7,336.89</td>
</tr>
<tr>
<td>Khan, Taufiquar Rahman</td>
<td>NRT-DESE: Preparing Resilient + Operationally Adaptive Communities through an Interdisciplinary, Venture-based Education (PROACTIVE)</td>
<td>National Science Foundation</td>
<td>6.00%</td>
<td>$179,393.94</td>
</tr>
<tr>
<td>Lund, Robert B</td>
<td>CAPC 2016-2017 Clemson University Parasite Forecasting</td>
<td>Companion Animal Parasite Council</td>
<td>50.00%</td>
<td>$35,409.00</td>
</tr>
<tr>
<td>Lund, Robert B</td>
<td>NSF IPA</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$215,775.00</td>
</tr>
<tr>
<td>Lund, Robert B</td>
<td>NSF IPA</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$188,043.00</td>
</tr>
<tr>
<td>Macaulay, Matthew</td>
<td>Toric partial orders: theory and applications</td>
<td>Simons Foundation</td>
<td>100.00%</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>McMahon, Christopher Steven</td>
<td>CAPC 2016-2017 Clemson University Parasite Forecasting</td>
<td></td>
<td>50.00%</td>
<td>$35,409.00</td>
</tr>
</tbody>
</table>
### COLLEGE OF SCIENCE

#### Mathematical Sciences

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>McMahan, Christopher Steven</td>
<td>Group Testing for Infectious Disease Detection: Multiplex Assays and Back-end Screening</td>
<td>University of Nebraska - Lincoln (FDP)</td>
</tr>
<tr>
<td>Schmell, Martin Johannes</td>
<td>Carolina Dynamics Symposium 2016-2018</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Sharp, Julia Lynn</td>
<td>Building Capacity to Control Viral Food-borne Disease: A Transitional, Multi-Disciplinary Approach</td>
<td>North Carolina State University</td>
</tr>
<tr>
<td>Sun, Xiaqian</td>
<td>Reducing Disparities in Birth Outcomes: A Randomized Controlled Trial on Centering Pregnancy</td>
<td>National Institutes of Health/DHHS</td>
</tr>
<tr>
<td>Wieck, Margaret Maria</td>
<td>Heterogenous Quadratic Programs for Decision Making under Uncertainty and Conflict</td>
<td>US Navy</td>
</tr>
<tr>
<td>Williams, Calvin L</td>
<td>Exploring the Mathematics of Genetics</td>
<td>SC Commission on Higher Education</td>
</tr>
<tr>
<td>Xue, Fei</td>
<td>Fast Algorithms for Large-scale Nonlinear Algebraic Eigenproblems - Transfer</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Xue,Hui</td>
<td>Derivatives of Eisenstein Series</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Xue,Hui</td>
<td>Number Theory Meetings in the Southeast</td>
<td>Simons Foundation</td>
</tr>
<tr>
<td></td>
<td><strong>Total: Mathematical Sciences</strong></td>
<td></td>
</tr>
<tr>
<td>Ajello,Marco</td>
<td>ON THE ORIGIN OF THE EXTRAGALACTIC GAMMA-RAY AND NEUTRINO BACKGROUNDS</td>
<td>NASA</td>
</tr>
<tr>
<td>Ajello,Marco</td>
<td>Hunting High-Redshift BL Lacertae Objects</td>
<td>NASA</td>
</tr>
<tr>
<td>Ajello,Marco</td>
<td>ROSES-2015/Fermi Guest Investigator &amp; Cycle 9</td>
<td>NASA</td>
</tr>
<tr>
<td>Ajello,Marco</td>
<td>Chasing the Most Powerful Blazars</td>
<td>NASA</td>
</tr>
<tr>
<td>Ajello,Marco</td>
<td>X-Raying New Galactic Accelerators with Chandra</td>
<td>Smithonian Astrophysical Observatory</td>
</tr>
<tr>
<td>Alexov,Emil Georgiev</td>
<td>New Generation DelPhi: Large Systems and Beyond Electrostatics</td>
<td>National Institutes of Health/DHHS</td>
</tr>
<tr>
<td>Name</td>
<td>Project Title</td>
<td>Sponsor</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td>Alper, Joshua</td>
<td>Workshop: The Future of Integrative Structural Biology</td>
<td>Oak Ridge Associated Universities</td>
</tr>
<tr>
<td>Brittain, Sean D</td>
<td>A Partnership in Observational and Computational Astronomy II</td>
<td>SC State University</td>
</tr>
<tr>
<td>Brittain, Sean D</td>
<td>Direct Imaging and Interferometry of Proto-planets at the Epoch of Disk Clearing</td>
<td>NASA</td>
</tr>
<tr>
<td>Brittain, Sean D</td>
<td>Eclipse Science Workshops for Upstate South Carolina Educators</td>
<td>SC Space Grant Consortium</td>
</tr>
<tr>
<td>Daw, Murray S</td>
<td>First-principles calculation of vibrational mode lifetimes in complex materials</td>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
</tr>
<tr>
<td>Ding, Feng</td>
<td>Supplement- CAREER: Multiscale Study of the Structure and Dynamics of Nanoparticle-Protein Coronae</td>
<td>National Science Foundation</td>
</tr>
<tr>
<td>Ding, Feng</td>
<td>Inhibition of Human Islet Amyloid Polypeptide Aggregation</td>
<td>National Institutes of Health/DHHS</td>
</tr>
</tbody>
</table>

**COLLEGE OF SCIENCE**

**Physics and Astronomy**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Title</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hartmann, Dieter H</td>
<td>Rapid Optical/Near-Infrared Follow-up of Fermi Transients</td>
<td>NASA</td>
<td>100.00%</td>
<td>2011600</td>
</tr>
<tr>
<td>He, Jian</td>
<td>Thermal Diffusivity Measurements Support</td>
<td></td>
<td>100.00%</td>
<td>2011898</td>
</tr>
<tr>
<td>Name</td>
<td>Title</td>
<td>Sponsor</td>
<td>Completion Code</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>Larsen, Miguel F</td>
<td>Supplement - A Sounding Rocket Investigation of Neutral Jets Associated with Auroral Arcs</td>
<td>Savannah River National Laboratory</td>
<td>2010062</td>
<td></td>
</tr>
<tr>
<td>Larsen, Miguel F</td>
<td>AZURE: Auroral Zone Upwelling Release Experiment</td>
<td>NASA</td>
<td>2010726</td>
<td></td>
</tr>
<tr>
<td>Larsen, Miguel F</td>
<td>Waves and Instabilities from a Neutral Dynamo (WINDY)</td>
<td>NASA</td>
<td>2010727</td>
<td></td>
</tr>
<tr>
<td>Larsen, Miguel F</td>
<td>Collaborative Research: Comprehensive Investigation of Midlatitude Ionospheric Irregularities</td>
<td>Cornell University (FDP)</td>
<td>2010824</td>
<td></td>
</tr>
<tr>
<td>Larsen, Miguel F</td>
<td>CEDAR: Collaborative Research: A Long-Term Investigation Of Auroral And Tidal Forcing of E-Region Thermospheric Winds At High Latitudes</td>
<td>National Science Foundation</td>
<td>2011160</td>
<td></td>
</tr>
<tr>
<td>Lehmacher, Gerald A</td>
<td>AZURE: Auroral Zone Upwelling Release Experiment</td>
<td>NASA</td>
<td>2010726</td>
<td></td>
</tr>
<tr>
<td>Lu.Xian</td>
<td>Collaborative Research: Antarctic Research: Characterizing Gravity Waves and their Effects on the Antarctic Ozone Layer</td>
<td>National Science Foundation</td>
<td>2011680</td>
<td></td>
</tr>
<tr>
<td>Lu.Xian</td>
<td>CEDAR: Exploration of Lower-atmosphere Wave Forcing, Vertical Wave Coupling and Their Impacts on the Ionosphere and Thermosphere Variability Using WAM, Lidar and ISR - Transfer</td>
<td>National Science Foundation</td>
<td>2011729</td>
<td></td>
</tr>
<tr>
<td>Lu.Xian</td>
<td>Signature of Energy Dissipation in the Magnetosphere-Ionosphere-Thermosphere Coupled</td>
<td>National Science Foundation</td>
<td>2012048</td>
<td></td>
</tr>
<tr>
<td>Name</td>
<td>Project Description</td>
<td>Sponsor</td>
<td>Percentage</td>
<td>Amount</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Marler, Joan P</td>
<td>Atomic Physics with Trapped Ions Summer REU at Clemson University</td>
<td>NASA</td>
<td>100.00%</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Meriwether Jr, John W</td>
<td>AZURE: Aurora Zone Upwelling Release Experiment</td>
<td>SC EPSCOR</td>
<td>7.00%</td>
<td>$27,117.44</td>
</tr>
<tr>
<td>Meriwether Jr, John W</td>
<td>Waves and Instabilities from a Neutral Dynamo (WINDY)</td>
<td>NASA</td>
<td>20.00%</td>
<td>$64,493.40</td>
</tr>
<tr>
<td>Meriwether Jr, John W</td>
<td>NSF IPA</td>
<td>Cornell University (FDP)</td>
<td>100.00%</td>
<td>$392,503.00</td>
</tr>
<tr>
<td>Meyer, Bradley S</td>
<td>Cosmic Chemical Memory and the Building Blocks of the Solar System</td>
<td>National Science Foundation</td>
<td>100.00%</td>
<td>$85,000.00</td>
</tr>
</tbody>
</table>

**COLLEGE OF SCIENCE**

**Physics and Astronomy**

<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oberheide, Jens</td>
<td>Short-term Tidal Variability from the Troposphere to the Dynamo Region</td>
<td>University of Louisville</td>
<td>100.00%</td>
<td>$48,158.00</td>
<td>2011039</td>
</tr>
<tr>
<td>Oberheide, Jens</td>
<td>Life-Cycle of the Quasi Two-Day Wave in the Southern Hemisphere</td>
<td>GATs, Inc.</td>
<td>100.00%</td>
<td>$10,059.00</td>
<td>2011375</td>
</tr>
<tr>
<td>Podila, Ramakrishna</td>
<td>Investigation of Nanomaterial Toxicity Paradigms Driven by Mast Cell Activation</td>
<td></td>
<td>100.00%</td>
<td>$104,129.00</td>
<td>2011038</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Award Percentage</td>
<td>Amount</td>
<td>Project Number</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>University of Colorado</td>
<td>Characterization of Graphene Based Supercapacitors</td>
<td>100.00%</td>
<td>$25,000.00</td>
<td>2011616</td>
<td></td>
</tr>
<tr>
<td>SAI Global Technologies, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Texas</td>
<td>Structure and Function of NMDA Receptors</td>
<td>100.00%</td>
<td>$28,315.00</td>
<td>2011099</td>
<td></td>
</tr>
<tr>
<td>Oak Ridge Associated Universities</td>
<td>Workshop: The Future of Integrative Structural Biology</td>
<td>50.00%</td>
<td>$2,000.00</td>
<td>2011650</td>
<td></td>
</tr>
<tr>
<td>DOE (UNITED STATES DEPARTMENT OF ENERGY)</td>
<td>Radionuclide Waste Disposal: Development of Multi-scale Experimental and Modeling Capabilities</td>
<td>4.55%</td>
<td>$79,625.00</td>
<td>2020199</td>
<td></td>
</tr>
<tr>
<td>National Science Foundation</td>
<td>REU Site: Solid-State Devices for Electronics, Photonics, and Magnetics Technology</td>
<td>15.00%</td>
<td>$55,896.60</td>
<td>2011543</td>
<td></td>
</tr>
<tr>
<td>Roper Mountain Science Center</td>
<td>Design, Construction, and Testing of a Rubens Tube for Wave Demonstrations</td>
<td>100.00%</td>
<td>$3,037.00</td>
<td>2011779</td>
<td></td>
</tr>
<tr>
<td>National Institute of Standards and Technology</td>
<td>FY 2017 Summer Undergraduate Research Fellowship PML-PL</td>
<td>100.00%</td>
<td>$9,286.00</td>
<td>2011973</td>
<td></td>
</tr>
<tr>
<td>SC Space Grant Consortium</td>
<td>Eclipse Science Workshops for Upstate South Carolina Educators</td>
<td>50.00%</td>
<td>$1,000.00</td>
<td>2021871</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relativistic and QED Effects in Highly Charged Ions</td>
<td>100.00%</td>
<td>$420,000.00</td>
<td>2011419</td>
<td></td>
</tr>
</tbody>
</table>
Sponsor: USDC (UNITED STATES DEPARTMENT OF COMMERCE)

Tewari, Sumanta
Chiral Spin Liquids and Other Topological Phases of Cold Atoms and Molecules in Optical Lattices
100.00% $21,120.00 2011283
Sponsor: Virginia Polytechnic Institute and State University

Total: Physics and Astronomy $3,650,043.20 $19,899,415.40

TOTAL: COLLEGE OF SCIENCE

ECONOMIC DEVELOPMENT

Economic Development

Peters, Thomas T
IQ-MS TFA: Innovate Quickly to Mobilize STEM in TFA
100.00% $75,000.00 2011888
Sponsor: Boeing

Total: Economic Development $75,000.00

TOTAL: ECONOMIC DEVELOPMENT

OTHER NON-COLLEGE RELATED DEPARTMENTS

Assessment

Benziing, Elizabeth Rogers
Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy
5.00% $6,639.05 2021923
Sponsor: Department of Agriculture

Cooper, John Andrew Scott
Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy
5.00% $6,639.05 2021923
Sponsor: Department of Agriculture

Payne, Kayla Steele
Enhancing FANH Education Through Sensor-Linked Mobile Applications to Improve Technical Literacy
5.00% $6,639.05 2021923
Sponsor: Department of Agriculture
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Sponsor</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortenberry,Brent R</td>
<td>Documenting the Santee's Storm Towers</td>
<td>100.00%</td>
<td>$24,984.00</td>
<td>SC Dept of Archives &amp; History</td>
<td>2021402</td>
</tr>
<tr>
<td>Boessneck,Eric Thomas</td>
<td>Regional Resource Center Support Agreement</td>
<td>50.00%</td>
<td>$4,500.00</td>
<td>Southeastern Wind Coalition</td>
<td>2020731</td>
</tr>
<tr>
<td>Colbert-Busch, Elizabeth</td>
<td>Regional Resource Center Support Agreement</td>
<td>25.00%</td>
<td>$2,250.00</td>
<td>Southeastern Wind Coalition</td>
<td>2020731</td>
</tr>
<tr>
<td>Rigas,Nikolaos</td>
<td>Regional Resource Center Support Agreement</td>
<td>25.00%</td>
<td>$2,250.00</td>
<td>Southeastern Wind Coalition</td>
<td>2020731</td>
</tr>
<tr>
<td>Salem,Thomas E</td>
<td>A Multi-Function/Multi-Fuel ThermoAcoustic Generator/Heat Pump (TAG/HP) for Marine Expeditionary Forces</td>
<td>70.00%</td>
<td>$210,000.00</td>
<td>US Navy</td>
<td>2010037</td>
</tr>
<tr>
<td>Lasser,William</td>
<td>SC Governor's School for Science and Mathematics Summer Program for Research Interns (SPRI)</td>
<td>100.00%</td>
<td>$107,806.00</td>
<td>South Carolina Governor's School for Science and Mathematics</td>
<td>2001854</td>
</tr>
</tbody>
</table>

**Total: Conservation Center**  
$24,984.00

**Total: CU Restoration Institute (CURI)**  
$219,000.00

**Total: Honors Program**  
$107,806.00
Inst Biological Interfaces Eng

Booth, Brian William
INCORPORATION OF THE ANTI-CANCER AGENT TANNIC ACID INTO BIOMATERIALS USED FOR BREAST RECONSTRUCTION
100.00% $25,000.00 2009813
Sponsor: Dabo's All In Team Foundation

Singapogu, Ravikiran Bhaskar
CanSim: A novel simulator for training cannulation skills in dialysis care
100.00% $136,459.00 2011619
Sponsor: National Institutes of Health/ DHHS
Total: Inst Biological Interfaces Eng $161,459.00

Office of Global Engagement

Nagy, Sharon
Curriculum Development—Chinese Language and Electrical Engineering
60.00% $61,209.60 2011920
Sponsor: American University of Malta
Total: Office of Global Engagement $61,209.60

Office Of Undergraduate Studies

Von Kaenel, Mary McPeak
Examining the Transfer Pipeline connecting a Two-year College and a Four-year Research Institution in South Carolina
100.00% $800.00 2011858
Sponsor: National Institute for the Study of Transfer Students
Total: Office Of Undergraduate Studies $800.00

Provost & Vice President for Academic Affairs

Granberg, Ellen M.
Clemson TIGERS ADVANCE
Transforming the Institution through Gender Equity, Retention, and Support
2.00% $27,117.90 2011602
Sponsor: National Science Foundation

Jones, Robert H
Clemson TIGERS ADVANCE
Transforming the Institution through Gender Equity, Retention, and Support
2.00% $27,117.90 2011602
Sponsor: National Science Foundation
Total: Provost & Vice President for Academic Affairs $54,235.80

University Libraries

Vinson, Christopher Glen
Digitize Photographic Materials for Everglades and Biscayne National Parks 100.00% $34,956.00 2011566
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)

OTHER NON-COLLEGE RELATED DEPARTMENTS

University Libraries

Vinson, Christopher Glen
Digitize Oversized Documents and Photographic Materials Managed by the Southeast Archeological Center for National Parks within the Southeast Region 100.00% $30,000.00 2011618
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)

Total: University Libraries $64,956.00

Watt Family Innovation Center

McNeil, Jeffrey Joseph
Test Resource Management Center (TRMC) Test Capabilities Development (TCD) 100.00% $171,613.00 2011435
Sponsor: Scientific Research Corporation (SRC)

McNeil, Jeffrey Joseph
Joint Mission Environment Test Capability (JMETC) Support 100.00% $274,084.00 2011786
Sponsor: Scientific Research Corporation (SRC)

Total: Watt Family Innovation Center $445,697.00
TOTAL: OTHER NON-COLLEGE RELATED DEPARTMENTS $1,160,064.55

PUBLIC SERVICE ACTIVITIES

4H Youth Development

Ardern, Pamela B
Clemson Sustainable Community Project 25.00% $35,000.00 2009684
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Agriculture</td>
<td>South Carolina Health Rocks!</td>
<td>100.00%</td>
<td>$38,500.00</td>
<td>2011597</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>South Carolina Youth Voice Youth Choice</td>
<td>100.00%</td>
<td>$74,000.00</td>
<td>2011627</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>SC 4-H Military Clubs</td>
<td>100.00%</td>
<td>$27,000.00</td>
<td>2011778</td>
</tr>
<tr>
<td>Kansas State University</td>
<td>South Carolina Mentoring Program</td>
<td>75.00%</td>
<td>$85,713.00</td>
<td>2011797</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>2017 Air Force/4-H Partnership Youth Camps</td>
<td>100.00%</td>
<td>$13,085.00</td>
<td>2011887</td>
</tr>
<tr>
<td>Kansas State University</td>
<td>Connecting Youth To Nature Through 4-H</td>
<td>100.00%</td>
<td>$22,600.00</td>
<td>2011904</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>2017 Navy Specialty Camp</td>
<td>100.00%</td>
<td>$24,882.00</td>
<td>2011934</td>
</tr>
<tr>
<td>Kirven, Georganne M</td>
<td>South Carolina Mentoring Program</td>
<td>25.00%</td>
<td>$28,571.00</td>
<td>2011797</td>
</tr>
<tr>
<td>National 4H Council</td>
<td>Total: 4H Youth Development</td>
<td></td>
<td>$349,351.00</td>
<td></td>
</tr>
</tbody>
</table>
PUBLIC SERVICE ACTIVITIES

Abbeville

Ferreira, Wilder N.  Entrepreneurship Initiative - FCCF Clemson University, Year 3  90.00%  $27,000.00  2012080

Sponsor: Freshwater Coast Community Foundation

Total: Abbeville  $27,000.00

Advanced Plant Technology

Kresovich, Stephen  Systems Analysis of the Physiological and Molecular Mechanisms of Sorghum Nutrient Use Efficiency, Water Use Efficiency and Interactions with the Soil Microbiome  100.00%  $102,567.00  2011040

Sponsor: University of Nebraska - Lincoln (FDP)

Kresovich, Stephen  Short and Long-term Solutions for Armillaria Root Rot in Prunus  5.00%  $44,410.50  2011936

Sponsor: Pennsylvania Department of Agriculture

Kresovich, Stephen  Breeding High Yielding Bioenergy Sorghum for the New Bioenergy Belt  90.00%  $134,998.20  2020937

Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)

Kresovich, Stephen  A Reference Phenotyping System for Energy Sorghum  100.00%  $71,221.00  2021064

Sponsor: Danforth (Donald) Plant Science Center

Kresovich, Stephen  National Needs Training in Computationally Intensive Genomic Analysis and Application  30.00%  $71,550.00  2021477

Sponsor: Department of Agriculture

Total: Advanced Plant Technology  $424,746.70

Agricultural Education
Keels, William E
Cherry Grove FFA Camp Caretaker 100.00% $21,892.00 2011414
Sponsor: SC Dept of Education

Keels, William E
Positions to Support Activities with South Carolina FFA Association 100.00% $24,756.00 2012044
Sponsor: SC Future Farmers of America (FFA)

Total: Agricultural Education $46,648.00

Agricultural Research

Ray, Christopher L
Evaluation of Weed Management and Agronomic Performance of Winter Canola in South Carolina 50.00% $4,363.00 2011933
Sponsor: North Carolina State University

Total: Agricultural Research $4,363.00

Anderson

Simpson, Jessica Davis
Belton Bird Busters 4-H Club Grant 100.00% $1,702.00 2011865
Sponsor: MidwayUSA Foundation, Inc

Total: Anderson $1,702.00

Bamberg

Varn Jr, Joe E
Asian Soybean Rust Monitoring System 30.00% $1,500.00 2011961
Sponsor: SC Soybean Board

Total: Bamberg $1,500.00

PUBLIC SERVICE ACTIVITIES

Belle W. Baruch Forest Science Institute

Dubberstein, Jamie A
Identifying and Evaluating Impacts to Wetlands from the Savannah River Estuary 90.00% $224,802.00 2009830
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Title</th>
<th>Amount</th>
<th>Budget Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US ARMY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duberstein, Jamie A</td>
<td>The Effects of Management on Carbon Sequestration in Pocosin Wetlands of the Great Dismal Swamp, Virginia</td>
<td>100.00%</td>
<td>$30,000.00</td>
</tr>
<tr>
<td><strong>USDI (US DEPARTMENT OF THE INTERIOR)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaminski, Richard Marvin</td>
<td>Aerial Transect Surveys to Estimate Abundances and Habitat Associations of Waterfowl and Waterbirds in South Carolina</td>
<td>100.00%</td>
<td>$32,000.00</td>
</tr>
<tr>
<td><strong>SC Dept of Natural Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaminski, Richard Marvin</td>
<td>Sorghum as a Feedstuff for Gamebirds and Broilers</td>
<td>5.00%</td>
<td>$4,993.45</td>
</tr>
<tr>
<td><strong>United Sorghum Checkoff Program</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rainwater, Thomas R</td>
<td>American Alligator Home Range and Movement Patterns in Coastal South Carolina</td>
<td>100.00%</td>
<td>$3,661.00</td>
</tr>
<tr>
<td><strong>Belle W. Baruch Foundation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rainwater, Thomas R</td>
<td>Movement Patterns and Habitat Use of American Alligators (Alligator mississippiensis) on Kiawah Island, South Carolina</td>
<td>100.00%</td>
<td>$17,500.00</td>
</tr>
<tr>
<td><strong>Town of Kiawah Island</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Van Bloem, Skip Judson</td>
<td>A Screened Lab to Enhance New Ecological Research and Clemson/US Baruch Institute</td>
<td>100.00%</td>
<td>$171,473.00</td>
</tr>
<tr>
<td><strong>National Science Foundation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Van Bloem, Skip Judson</td>
<td>RAPID Proposal: Impact of Storm Surge on Coastal Forest Demography in Response to Repeated Hurricane Disturbances</td>
<td>20.00%</td>
<td>$30,453.60</td>
</tr>
<tr>
<td><strong>Department of Agriculture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Van Bloem, Skip Judson</td>
<td>The Use of Uniola virginia as a Vegetation Barrier in Puerto Rico</td>
<td>100.00%</td>
<td>$28,000.00</td>
</tr>
<tr>
<td><strong>Belle W. Baruch Forest Science Institute</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$542,883.05</td>
</tr>
</tbody>
</table>

Charleston
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Status Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scales, Jennifer Marie</td>
<td>100.00%</td>
<td>PTC FIRST Program 4-H Robotics</td>
<td>FIRST Inspires</td>
<td>2011702</td>
</tr>
<tr>
<td>Currence, Robin L</td>
<td>100.00%</td>
<td>United Way of Chester County</td>
<td>United Way of Chester County</td>
<td>2011186</td>
</tr>
<tr>
<td>Currence, Robin L</td>
<td>100.00%</td>
<td>4H Science on the Move</td>
<td>J Marion Sims Foundation</td>
<td>2011664</td>
</tr>
<tr>
<td>Currence, Robin L</td>
<td>100.00%</td>
<td>Lutz 2017 Chester County 4-H &amp; 4-H Science on the Move</td>
<td>Lutz Foundation, Clarence H and Anna Elizabeth</td>
<td>2011835</td>
</tr>
<tr>
<td>Currence, Robin L</td>
<td>100.00%</td>
<td>United Way Chester County SC 2017</td>
<td>United Way of Chester County</td>
<td>2011863</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: Charleston</strong></td>
<td></td>
<td>$1,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: Chester</strong></td>
<td></td>
<td>$48,000.00</td>
</tr>
</tbody>
</table>

**PUBLIC SERVICE ACTIVITIES**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Amount</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Status Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coastal Research &amp; Education Center</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shepard, Buford Merle</td>
<td>100.00%</td>
<td>Entomology - SSR Account</td>
<td>Various Private Sponsors (245)</td>
<td>1980298</td>
</tr>
<tr>
<td>Ward, Brian K</td>
<td>100.00%</td>
<td>SSR - Crop Protection Research</td>
<td>Various Private Sponsors (245)</td>
<td>1980583</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>%</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina State University</td>
<td>Growing New Roots: Grafting to Enhance Resiliency in U.S. Vegetable Industries</td>
<td>25.00%</td>
<td>$87,602.25</td>
<td>2011624</td>
</tr>
<tr>
<td>SC Dept of Agriculture</td>
<td>Restoring The Sweet Potato Industry In South Carolina Through Research And Extension</td>
<td>100.00%</td>
<td>$33,132.00</td>
<td>2011667</td>
</tr>
<tr>
<td>Cornell University (FDP)</td>
<td>Developing an Eastern Broccoli Industry</td>
<td>75.00%</td>
<td>$52,661.25</td>
<td>2011717</td>
</tr>
<tr>
<td>SC Peanut Board</td>
<td>Large Scale Seed Increase, Cultural Practice Trials and Commercialization Through Industry and Quality and Processing Evaluations</td>
<td>50.00%</td>
<td>$5,008.50</td>
<td>2011883</td>
</tr>
</tbody>
</table>

**Total: Coastal Research & Education Center** $194,654.00

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>%</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC Soybean Board</td>
<td>Asian Soybean Rust Monitoring System</td>
<td>10.00%</td>
<td>$500.00</td>
<td>2011961</td>
</tr>
</tbody>
</table>

**Total: Colleton** $500.00

**Cooperative Extension Services**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Project Description</th>
<th>%</th>
<th>Amount</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshwater Coast Community Foundation</td>
<td>Entrepreneurship Initiative - FCCF Clemson University, Year 2</td>
<td>10.00%</td>
<td>$3,500.00</td>
<td>2010670</td>
</tr>
<tr>
<td>Missouri State University</td>
<td>Association of Southern Regional Extension Directors</td>
<td>100.00%</td>
<td>$299,881.00</td>
<td>2011584</td>
</tr>
<tr>
<td></td>
<td>Public Assistance Funding - Severe Storms and Flooding</td>
<td>100.00%</td>
<td>$16,818.00</td>
<td>2011641</td>
</tr>
</tbody>
</table>
Sponsor: South Carolina Emergency Management Division

Dobbins, Thomas R
FSMA position
100.00% $500,000.00 2011707

Sponsor: SC Dept of Agriculture

Total: Cooperative Extension Services $820,199.00

CU Genomics & Comp Bio Lab

Saski, Christopher A
Development of a Rapid in Vitro Assay for Screening for Armillaria Root Rot Infection and Resistance
34.00% $2,720.00 2011827
Sponsor: SC Peach Council & Promotion Board

Saski, Christopher A
Short and Long-term Solutions for Armillaria Root Rot in Prunus
20.00% $177,642.00 2011936
Sponsor: Pennsylvania Department of Agriculture

Saski, Christopher A
Innovation in Plant Genetic Engineering
100.00% $15,000.00 2012026
Sponsor: Cotton Incorporated

PUBLIC SERVICE ACTIVITIES

CU Genomics & Comp Bio Lab

Saski, Christopher A
Horn Fly Antennal and Midgut Transcriptome Analysis
100.00% $8,000.00 2020237
Sponsor: Department of Agriculture

Saski, Christopher A
RosBREED: Combining Disease Resistance with Horticultural Quality in New Rosaceous Cultivars
15.00% $51,248.10 2020373
Sponsor: Michigan State University

Saski, Christopher A
Elucidating Vector Competence and the Evolution of Diapause in Midges, Houseflies, and Mosquitoes
100.00% $197,500.00 2021577
<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Grant Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Agriculture</td>
<td>Genomic Profiling and Development of a Comprehensive Catalogue of Plum Germplasm using Genotyping-By-Sequencing (GBS)</td>
<td>100.00%</td>
<td>$44,000.00</td>
<td>2011485</td>
</tr>
<tr>
<td>American Chestnut Foundation</td>
<td>Mapping of Resistance to Phytophthora cinnamomi (Pc) in an Interspecific American/Chinese Chestnut F2 Populations Derived from Chinese Chestnut Sources Nanking</td>
<td>100.00%</td>
<td>$141,560.00</td>
<td>2012082</td>
</tr>
<tr>
<td><strong>Total:</strong> CU Genomics &amp; Comp Bio Lab</td>
<td></td>
<td></td>
<td>$637,670.10</td>
<td></td>
</tr>
<tr>
<td><strong>CU Regulatory Services</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>2017-2019 Special Programs Cooperative Agreement</td>
<td>100.00%</td>
<td>$104,666.00</td>
<td>2011763</td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>2017-2019 Enforcement Pesticide Programs Cooperative Agreement</td>
<td>100.00%</td>
<td>$106,536.00</td>
<td>2011766</td>
</tr>
<tr>
<td>EPA (Environmental Protection Agency)</td>
<td>2017-2019 Certification and Training Pesticide Programs Cooperative Agreement</td>
<td>100.00%</td>
<td>$71,106.00</td>
<td>2021765</td>
</tr>
<tr>
<td><strong>Total:</strong> CU Regulatory Services</td>
<td></td>
<td></td>
<td>$282,308.00</td>
<td></td>
</tr>
<tr>
<td><strong>Edgefield</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>Irrigation Modeling in Southeastern Peach Systems</td>
<td>100.00%</td>
<td>$6,000.00</td>
<td>2011825</td>
</tr>
<tr>
<td><strong>Total:</strong> Edgefield</td>
<td></td>
<td></td>
<td>$6,000.00</td>
<td></td>
</tr>
<tr>
<td><strong>Edisto Research &amp; Education Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SC Peach Council &amp; Promotion Board</td>
<td>Variable Rate Seeding Prescription Development for Soybeans</td>
<td>75.00%</td>
<td>$6,375.00</td>
<td>2011970</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Code</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Evaluation of &quot;Directed Prescription,&quot; Method for Variable Rate Nitrogen Prescription in Cotton</td>
<td>50.00%</td>
<td>$10,000.00</td>
<td>2011980</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>Eastern Expansion Water Use Efficiency - Service Order 56</td>
<td>100.00%</td>
<td>$10,080.00</td>
<td>2012037</td>
</tr>
<tr>
<td>Monsanto</td>
<td>Planting Date by Seeding Rate Trial 2017</td>
<td>100.00%</td>
<td>$5,000.00</td>
<td>2011945</td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PUBLIC SERVICE ACTIVITIES**

**Edisto Research & Education Center**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC Soybean Board</td>
<td>Evaluation of Different Row Widths and Plant Populations on Soybean Yield in SC</td>
<td>90.00%</td>
<td>$7,200.00</td>
<td>2011962</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Varietal Comparison of New Conventional Varieties to Top GM Varieties</td>
<td>25.00%</td>
<td>$625.00</td>
<td>2011964</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Soybean/Sorghum Rotation Study</td>
<td>34.00%</td>
<td>$1,700.00</td>
<td>2011965</td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Sorghum Rotation Study</td>
<td>25.00%</td>
<td>$2,000.00</td>
<td>2011992</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Agronomic Evaluation of Virginia and Runner Type Peanut Cultivars for South Carolina, With</td>
<td>30.00%</td>
<td>$34,170.60</td>
<td>2011852</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Budget</td>
<td>Code</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>SC Peanut Board</td>
<td>Improved Peanut Production through Agronomic Evaluation of Cultivars, Enhanced Pest</td>
<td>25.00%</td>
<td>$30,811.00</td>
<td>2011853</td>
</tr>
<tr>
<td>National Peanut Board</td>
<td>Soybean/Sorghum Rotation Study</td>
<td>33.00%</td>
<td>$1,650.00</td>
<td>2011965</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Image Analysis for Soybean Leaf Defoliation</td>
<td>25.00%</td>
<td>$1,875.00</td>
<td>2011968</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Variable Rate Seeding Prescription Development for Soybeans</td>
<td>25.00%</td>
<td>$2,125.00</td>
<td>2011970</td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Evaluation of &quot;Directed Prescription&quot; Method for Variable Rate Nitrogen Prescription in Cotton</td>
<td>50.00%</td>
<td>$10,000.00</td>
<td>2011980</td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>Sorghum Rotation Study</td>
<td>25.00%</td>
<td>$2,000.00</td>
<td>2011992</td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Utilizing Space-Based Technology to Determine Hydrological Properties of Soils for Characterizing, Understanding, and Predicting Terrestrially Linked Components of the Hydrologic Cycle</td>
<td>20.00%</td>
<td>$25,498.00</td>
<td>2010460</td>
</tr>
<tr>
<td>NASA</td>
<td>Demonstration of a Low-cost Small Unmanned Aircraft System (sUAS) to Monitor Water Status of Container-Grown Woody Ornamentals.</td>
<td>100.00%</td>
<td>$8,278.00</td>
<td>2011646</td>
</tr>
<tr>
<td>Schmidt (J. Frank) Family</td>
<td>Real-time, Variable-Depth Tillage for Managing Soil Compaction in Cotton Production</td>
<td>25.00%</td>
<td>$2,500.00</td>
<td>2011771</td>
</tr>
</tbody>
</table>
Sponsor: Cotton Incorporated

Maja, Joe Mari Jaluag  Developing a Sensor-Based, Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems (pre-doctoral fellowship)  20.00%  $18,961.60  2011794

Sponsor: Department of Agriculture

Maja, Joe Mari Jaluag  RAPID Proposal: Impact of Storm Surge on Coastal Forest Demography in Response to Repeated Hurricane Disturbances  20.00%  $30,453.60  2011803

Sponsor: National Science Foundation

PUBLIC SERVICE ACTIVITIES

Edisto Research & Education Center

Maja, Joe Mari Jaluag  Agronomic Evaluation of Virginia and Runner Type Peanut Cultivars for South Carolina, With Evaluation and Implementation of Improved Monitoring, Production and Harvest Systems & 2016  30.00%  $34,170.60  2011852

Sponsor: SC Peanut Board

Maja, Joe Mari Jaluag  A Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems  33.00%  $2,791.80  2011908

Sponsor: Cotton Incorporated

Maja, Joe Mari Jaluag  Development of Intelligent Logger Controller for Cotton Phenotyping  100.00%  $9,858.00  2011981

Sponsor: Cotton Incorporated

Maja, Joe Mari Jaluag  Sorghum Rotation Study  25.00%  $2,000.00  2011992

Sponsor: United Sorghum Checkoff Program

Maja, Joe Mari Jaluag  Cooperative Intelligent Robotic Systems for Cotton Production Phase I  100.00%  $26,000.00  2012028

Sponsor: Cotton Incorporated

Maja, Joe Mari Jaluag  Crop Protection and Pest Management Extension Implementation Program for South Carolina  7.50%  $12,600.00  2010322

Marshall, Michael W
<table>
<thead>
<tr>
<th>Name</th>
<th>Project Description</th>
<th>Sponsor</th>
<th>Percentage</th>
<th>Amount</th>
<th>Contract No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marshall, Michael W</td>
<td>Developing a Sensor-Based, Variable-Rate Nutrient Management Technique for Center Pivot Irrigation Systems (pre-doctoral fellowship)</td>
<td>Department of Agriculture</td>
<td>20.00%</td>
<td>$18,961.60</td>
<td>2011794</td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Agronomic Evaluation of Virginia and Runner Type Peanut Cultivars for South Carolina, With Evaluation and Implementation of Improved Monitoring, Production and Harvest Systems</td>
<td>Department of Agriculture</td>
<td>10.00%</td>
<td>$11,390.20</td>
<td>2011852</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SC Peanut Board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Improved Peanut Production through Agronomic Evaluation of Cultivars, Enhanced Pest Management Practices, Intensive Yield Analysis and Economics</td>
<td>National Peanut Board</td>
<td>25.00%</td>
<td>$30,811.00</td>
<td>2011853</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SC Peanut Board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Management of Difficult to Control Annual Grasses in South Carolina Peanut Production</td>
<td>SC Peanut Board</td>
<td>100.00%</td>
<td>$12,918.00</td>
<td>2011881</td>
</tr>
<tr>
<td></td>
<td></td>
<td>North Carolina State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Evaluation of Weed Management and Agronomic Performance of Winter Canola in South Carolina</td>
<td>North Carolina State University</td>
<td>50.00%</td>
<td>$4,363.00</td>
<td>2011933</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monsanto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Evaluation of Mesotrione + Acetochlor POST in Corn</td>
<td>Monsanto</td>
<td>100.00%</td>
<td>$7,370.00</td>
<td>2011959</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monsanto</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Comparison of Xtend and Liberty-Link Weed Control Programs in Soybean-Service Order #57</td>
<td>Monsanto</td>
<td>100.00%</td>
<td>$13,400.00</td>
<td>2011960</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SC Soybean Board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Evaluation of Different Row Widths and Plant Populations on Sobyean Yield in SC</td>
<td>SC Soybean Board</td>
<td>10.00%</td>
<td>$800.00</td>
<td>2011962</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall, Michael W</td>
<td>Survey and Management of PPO-Resistant Palmer Amaranth in Cotton</td>
<td></td>
<td>100.00%</td>
<td>$23,640.00</td>
<td>2011971</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Project Description</td>
<td>Amount</td>
<td>Project ID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cotton Incorporated</td>
<td>Evaluation of Enlist Cotton and Soybean Herbicide Systems</td>
<td>100.00%</td>
<td>$10,500.00</td>
<td>2011991</td>
<td></td>
</tr>
<tr>
<td>Dow AgroSciences LLC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monsanto</td>
<td>Comparison of Dicamba and Liberty Herbicide Programs in Cotton</td>
<td>100.00%</td>
<td>$6,700.00</td>
<td>2011993</td>
<td></td>
</tr>
<tr>
<td>Kultevat</td>
<td>Russian Dandelion (Taraxacum kok-saghyz) or TKS</td>
<td>100.00%</td>
<td>$9,450.00</td>
<td>2011700</td>
<td></td>
</tr>
<tr>
<td>SC Soybean Board</td>
<td>Soybean/Sorghum Rotation Study</td>
<td>33.00%</td>
<td>$1,650.00</td>
<td>2011965</td>
<td></td>
</tr>
<tr>
<td>United Sorghum Checkoff Program</td>
<td>Sorghum Rotation Study</td>
<td>25.00%</td>
<td>$2,000.00</td>
<td>2011992</td>
<td></td>
</tr>
<tr>
<td>NASA</td>
<td>Utilizing Space-Based Technology to Determine Hydrological Properties of Soils for Characterizing, Understanding, and Predicting Terrestrially Linked Components of the Hydrologic Cycle</td>
<td>15.00%</td>
<td>$19,123.50</td>
<td>2010460</td>
<td></td>
</tr>
<tr>
<td>SC Peanut Board</td>
<td>Field Evaluation of Agronomic and Economic Benefits of Irrigation Scheduling Methods for Peanut Production in South Carolina</td>
<td>100.00%</td>
<td>$14,144.00</td>
<td>2011882</td>
<td></td>
</tr>
</tbody>
</table>

**Total:** Edisto Research & Education Center $485,944.50
<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Sponsor</th>
<th>%</th>
<th>Amount</th>
<th>Proposal #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent 4-H</td>
<td></td>
<td>100.00%</td>
<td>$30,700.00</td>
<td>2004895</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Greenville County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>Extension Agent-Anderson County</td>
<td></td>
<td>100.00%</td>
<td>$30,714.00</td>
<td>2004909</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Anderson County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent-Dorchester County</td>
<td></td>
<td>100.00%</td>
<td>$14,400.00</td>
<td>2004997</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dorchester County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent 4-H</td>
<td></td>
<td>100.00%</td>
<td>$25,000.00</td>
<td>2005169</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Laurens County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent-ANR</td>
<td></td>
<td>100.00%</td>
<td>$28,000.00</td>
<td>2005768</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spartanburg County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent 4-H</td>
<td></td>
<td>100.00%</td>
<td>$14,400.00</td>
<td>2005769</td>
</tr>
<tr>
<td></td>
<td></td>
<td>McCormick County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent-Agriculture</td>
<td></td>
<td>100.00%</td>
<td>$14,892.00</td>
<td>2007614</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Berkeley County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent-Natural Resources/</td>
<td></td>
<td>100.00%</td>
<td>$158,190.00</td>
<td>2007642</td>
</tr>
<tr>
<td></td>
<td>Water Quality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pickens County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>Charleston County Extension Agent-Agreement</td>
<td></td>
<td>100.00%</td>
<td>$16,450.00</td>
<td>2007693</td>
</tr>
</tbody>
</table>
Sponsor: Charleston County

PUBLIC SERVICE ACTIVITIES

Field Operations

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Sponsor</th>
<th>Amount</th>
<th>Sponsorship Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent 4-H</td>
<td>Clarendon County</td>
<td>100.00%</td>
<td>$12,750.00</td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent 4-H</td>
<td>Union County, SC</td>
<td>100.00%</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>Callahan,Brian J</td>
<td>County Extension Agent-Horticulture and Turf</td>
<td>Anderson County</td>
<td>100.00%</td>
<td>$30,000.00</td>
</tr>
<tr>
<td>Moore,Katie Crouch</td>
<td>Pursuit of a Strong, Sustainable Pesticide Safety Education Program</td>
<td>CropLife Foundation</td>
<td>100.00%</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>Purisi,Michelle Ann</td>
<td>Subaward for Accountable Communities and Medical Neighborhoods</td>
<td>Greenville Health System (GHS)</td>
<td>50.00%</td>
<td>$15,198.50</td>
</tr>
<tr>
<td>Purisi,Michelle Ann</td>
<td>CU Choose Well</td>
<td>New Morning Foundation</td>
<td>10.00%</td>
<td>$5,774.40</td>
</tr>
<tr>
<td>Tsuruda,Jennifer Mariko</td>
<td>Impacts and Residual Longevity of Systematic Insecticides on Pollinators in Ornamental Plant Production System</td>
<td>American Floral Endowment</td>
<td>24.00%</td>
<td>$1,036.80</td>
</tr>
</tbody>
</table>

Total: Field Operations $434,505.70

Greenville
Ferreira, Wilder N.  
Entrepreneurship Initiative - FCCF Clemson University. Year 2  

80.00%  
$28,000.00  
2010670  

Sponsor: Freshwater Coast Community Foundation  

Total: Greenville  

$28,000.00  

Hampton  

Warner, Andrew C  
Asian Soybean Rust Monitoring System  

30.00%  
$1,500.00  
2011961  

Sponsor: SC Soybean Board  

Total: Hampton  

$1,500.00  

Lancaster  

Beer, Brian L  
Performance and Economic Comparison of Implanted, Traditionally Marketed vs. Non-Implanted, No Hormone Treated (Natural) Marketed Feeder Steers  

100.00%  
$6,950.00  
2012035  

Sponsor: SC Cattlemen's Association  

Total: Lancaster  

$6,950.00  

Lexington  

Smith, John P  
Crop Protection and Pest Management Extension Implementation Program for South Carolina to Advance Stakeholder Adoption in Key Commodities  

7.50%  
$12,600.00  
2010322  

Sponsor: Department of Agriculture  

Smith, John P  
Developing an Eastern Broccoli Industry  

25.00%  
$17,553.75  
2011717  

Sponsor: Cornell University (FDP)  

PUBLIC SERVICE ACTIVITIES  

Lexington  

Smith, John P  
MyIPM: An Innovative Application for Identification and Management of Small Fruit Diseases and Pests  

50.00%  
$2,500.00  
2011901
**Sponsor:** Southern Region Small Fruit Consortium

| **Total:** Lexington | $32,653.75 |

**Livestock & Poultry Health**

<table>
<thead>
<tr>
<th>Person/Role</th>
<th>Project Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>PID Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin, Michael Kent</td>
<td>Enhancing Universally Recognized Diagnostic Data Standards and Systems of Electronic Messaging Necessary for Transcending Inter-laboratory Connectivity and the Next Generation of Web-based Swine Health Information Management Tools for Both Non-program D</td>
<td>100.00%</td>
<td>$52,500.00</td>
<td>2011579</td>
</tr>
<tr>
<td>Martin, Michael Kent</td>
<td>NAHILN-LIMS Integration</td>
<td>100.00%</td>
<td>$61,000.00</td>
<td>2012021</td>
</tr>
<tr>
<td>Martin, Michael Kent</td>
<td>Veterinary Diagnostic Portal and Data Warehouse for Data Mining Applications</td>
<td>100.00%</td>
<td>$10,000.00</td>
<td>2012053</td>
</tr>
<tr>
<td>Parr, Boyd Hobson</td>
<td>Animal Disease Traceability</td>
<td>100.00%</td>
<td>$90,339.00</td>
<td>2011854</td>
</tr>
<tr>
<td>Parr, Boyd Hobson</td>
<td>National Surveillance and Response for Animal Health Activities</td>
<td>100.00%</td>
<td>$259,701.00</td>
<td>2011855</td>
</tr>
<tr>
<td>Parr, Boyd Hobson</td>
<td>SC NAHILN FY 17 Level 2 Member Lab Agreement</td>
<td>100.00%</td>
<td>$52,184.00</td>
<td>2012023</td>
</tr>
</tbody>
</table>

**LPH/SCMPID**

<table>
<thead>
<tr>
<th>Person/Role</th>
<th>Department</th>
<th>Percentage</th>
<th>Amount</th>
<th>PID Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southworth, Suzanne K</td>
<td>South Carolina Meat-Poultry Inspection Department</td>
<td>100.00%</td>
<td>$1,500,000.00</td>
<td>2021605</td>
</tr>
</tbody>
</table>

**Total:** Livestock & Poultry Health

$525,724.00
<table>
<thead>
<tr>
<th>Sponsor: Department of Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total: LPH/SCMPID</strong></td>
</tr>
<tr>
<td>Marion</td>
</tr>
<tr>
<td>Ballew, Justin Brett</td>
</tr>
<tr>
<td>Sponsor: SC Soybean Board</td>
</tr>
<tr>
<td><strong>Total: Marion</strong></td>
</tr>
<tr>
<td><strong>Musser Fruit Research</strong></td>
</tr>
<tr>
<td>Corbin, Jennifer Leann</td>
</tr>
<tr>
<td>Sponsor: North American Raspberry &amp; Blackberry Association</td>
</tr>
<tr>
<td>Hopkins, Jeffrey Alden</td>
</tr>
<tr>
<td>Sponsor: North American Raspberry &amp; Blackberry Association</td>
</tr>
<tr>
<td><strong>Total: Musser Fruit Research</strong></td>
</tr>
<tr>
<td><strong>Orangeburg</strong></td>
</tr>
<tr>
<td>Croft, Jonathan Kenneth</td>
</tr>
<tr>
<td>Sponsor: SC Soybean Board</td>
</tr>
<tr>
<td>Richardson, Marian W</td>
</tr>
<tr>
<td>Sponsor: Department of Agriculture</td>
</tr>
<tr>
<td><strong>Total: Orangeburg</strong></td>
</tr>
<tr>
<td><strong>Pee Dee Research &amp; Education Center</strong></td>
</tr>
<tr>
<td>Fallen, Benjamin D</td>
</tr>
</tbody>
</table>
Sponsor: Specialty Seed, Inc.

Fallen, Benjamin D
Developing Soybean Cultivars and Germplasm with Increased Protein Quantity and Quality for the Midwest and South using Diversity in Cultivated and Wild Soybeans
100.00% $30,000.00 2011780
Sponsor: Department of Agriculture

Fallen, Benjamin D
Evaluating and Improving Drought Tolerance in Soybean Across the Carolinas
100.00% $10,000.00 2011966
Sponsor: SC Soybean Board

Fallen, Benjamin D
Evaluation of SC Soybean Breeding Lines in 2017
100.00% $15,049.00 2011967
Sponsor: SC Soybean Board

Park, Wonkeun
Investigating Factors Associated with Aquaporin Gene Expression
100.00% $20,000.00 2011722
Sponsor: Cotton Incorporated

Park, Wonkeun
Developing Genetic Mutagenesis Populations for Cotton Breeding/Genetics Programs
100.00% $10,000.00 2011861
Sponsor: SC Cotton Board

PUBLIC SERVICE ACTIVITIES

Pee Dee Research & Education Center

Park, Wonkeun
Sifting Germplasm to Identify Hypoallergenic Peanut Genotypes: Gathering Ammunition for the Future Breeding
10.00% $1,104.50 2011879
Sponsor: SC Peanut Board

Park, Wonkeun
Evaluation and Marker Development for Tomato Spotted Wilt Virus Resistance among the Interspecific Hybrid Population derived from Arachis hypogaea cv. Gregory x A. diogoisi
100.00% $7,500.00 2011884
Sponsor: SC Peanut Board

Peterson, Paul D
Tobacco Research in South Carolina in Agronomy, Pathology, and Entomology
80.00% $40,000.00 2011844
### Sponsor: SC Tobacco Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saverino, Anthony J</td>
<td>Common Garden Support Agreement</td>
<td>100.00%</td>
<td>$8,256.00</td>
<td>2021541</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smith, Matthew Clay</td>
<td>Acquisition of Goods and Services (58-6082-6-007) Amendment 07</td>
<td>100.00%</td>
<td>$57,683.00</td>
<td>2011171</td>
</tr>
<tr>
<td>Smith, Matthew Clay</td>
<td>Acquisition of Goods and Services (58-6082-6-013) Amendment 04</td>
<td>100.00%</td>
<td>$91,193.00</td>
<td>2011563</td>
</tr>
<tr>
<td>Smith, Matthew Clay</td>
<td>Acquisition of Goods and Services (58-6082-7-012)</td>
<td>100.00%</td>
<td>$56,100.00</td>
<td>2011987</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total:** Pee Dee Research & Education Center $352,006.50

### Pickens

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sutter, Janine H.</td>
<td>One More Shot: Clemson 4-H</td>
<td>100.00%</td>
<td>$382.00</td>
<td>2011545</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> MidwayUSA Foundation, Inc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sutter, Janine H.</td>
<td>Pendleton 4-H Shotgun Club</td>
<td>100.00%</td>
<td>$444.00</td>
<td>2011546</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> MidwayUSA Foundation, Inc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sutter, Janine H.</td>
<td>Global Youth Service</td>
<td>100.00%</td>
<td>$500.00</td>
<td>2011690</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Youth Service America (YSA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sutter, Janine H.</td>
<td>Growing Strong Leaders</td>
<td>100.00%</td>
<td>$1,000.00</td>
<td>2012108</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Amount</td>
<td>Project Code</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>Rotary Club of Clemson</td>
<td>Forest Pests Detection &amp; Education and Cogongrass Detection, Education, &amp; Eradication Project</td>
<td>$50,000.00</td>
<td>2010189</td>
<td></td>
</tr>
<tr>
<td>SC Forestry Commission</td>
<td>Imported Fire Ant</td>
<td>$27,500.00</td>
<td>2021737</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>CAPS - Tier I and Pests of National Concern</td>
<td>$29,239.50</td>
<td>2021738</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>CAPS - Tier I and Pests of National Concern</td>
<td>$21,585.50</td>
<td>2021739</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Palm Commodity Survey</td>
<td>$7,366.50</td>
<td>2022015</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Farm Bill-Forest Pest Outreach</td>
<td>$18,460.00</td>
<td>2022017</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Witchweed</td>
<td>$6,550.50</td>
<td>2022018</td>
<td></td>
</tr>
<tr>
<td>Department of Agriculture</td>
<td>Farm Bill-National Honey Bee Pests and Diseases Survey</td>
<td>$6,900.00</td>
<td>2022025</td>
<td></td>
</tr>
</tbody>
</table>
Cole, Stephen E
IPM Mosquito Control

Sponsor: EPA (Environmental Protection Agency)

Long, Steven H
Forest Pests Detection & Education and Cogongrass Detection, Education, & Eradication Project

Sponsor: SC Forestry Commission

Long, Steven H
Southern Plant Diagnostics Network (SPDN)

Sponsor: University of Florida (FDP)

PUBLIC SERVICE ACTIVITIES

Plant Industry

Long, Steven H
Imported Fire Ant

Sponsor: Department of Agriculture

Long, Steven H
CAPS - Tier 1 and Pests of National Concern

Sponsor: Department of Agriculture

Long, Steven H
CAPS - Tier 1 and Pests of National Concern

Sponsor: Department of Agriculture

Long, Steven H
Palm Commodity Survey

Sponsor: Department of Agriculture

Long, Steven H
Pathway Survey Multiple AG Systems

Sponsor: Department of Agriculture
Long, Steven H  
Farm Bill-Forest Pest Outreach  
Sponsor: Department of Agriculture  
50.00%  $18,460.00  2022017

Long, Steven H  
Witchweed  
Sponsor: Department of Agriculture  
50.00%  $6,550.50  2022018

Long, Steven H  
Farm Bill-National Honey Bee Pests and Diseases Survey  
Sponsor: Department of Agriculture  
50.00%  $6,900.00  2022025

Total: Plant Industry  
$436,956.00

PUBLIC SERVICE ACTIVITIES

RPSP Labs

Alford, Shannon Recca  
Animal Waste Analysis for The Commonwealth of Virginia  
Sponsor: Virginia Department of Conservation and Recreation  
100.00%  $43,846.00  2011638

Total: RPSP Labs  
$43,846.00

Saluda

Lake, Connie N  
Saluda 4-H Shooting Sports Grant  
Sponsor: MidwayUSA Foundation, Inc  
100.00%  $1,038.00  2011864

Lake, Connie N  
2017 Summer Reading Camp Community Partnership Grant  
Sponsor: Saluda School District  
100.00%  $9,716.00  2011977

Total: Saluda  
$10,754.00

Sandhill Research & Education Center

Coleman, Katherine Y  
Enterpreneurship Initiative - FCCF Clemson University. Year 2  
10.00%  $3,500.00  2010670
Sponsor: Freshwater Coast Community Foundation

Coleman, Katherine Y  
Entrepreneurship Initiative - FCCF Clemson University, Year 3  
10.00%  $3,000.00  2012080

Sponsor: Freshwater Coast Community Foundation

Coleman, Katherine Y  
Leadership South Carolina  
100.00%  $160,841.00  2021084

Sponsor: Leadership South Carolina

Green, Stanley Wayne  
Capacity Building for USDA-Rural Development Programs in South Carolina  
10.00%  $11,204.20  2011735

Sponsor: Department of Agriculture

Vossbrinck, Diana Marie  
Capacity Building for USDA-Rural Development Programs in South Carolina  
30.00%  $33,612.60  2011735

Sponsor: Department of Agriculture

Vossbrinck, Diana Marie  
Building Entrepreneurial Farm Management and Land Stewardship Capacity for South Carolina New and Beginning Farmers  
25.00%  $148,783.25  2021398

Sponsor: Department of Agriculture

Total: Sandhill Research & Education Center  $360,941.05

SC Botanical Garden

Aultman, Sherry P  
Pathway Survey Multiple AG Systems  
50.00%  $12,610.00  2022016

Sponsor: Department of Agriculture

Total: SC Botanical Garden  $12,610.00

SC Water Resource Center

Allen, Jeffrey S  
Economic Impact Analysis of Lower Savannah  
50.00%  $20,000.00  2011629

Sponsor: US Army Corp of Engineers
Allen, Jeffery S
South Carolina Water Resources Center Program Management
Sponsor: USD Water Resources Research Institute Annual
Total: SC Water Resource Center

PUBLIC SERVICE ACTIVITIES

Spartanburg
Rollins, Philip A
Research Support - SRR
Sponsor: Arysta LifeScience
Total: Spartanburg

Sumter
McNulty, Amanda C
Sumter Government Beautification
Sponsor: Palmetto Pride
Total: Sumter

T. Ed Garrison Arena
Williams, Charles
Advertising/Promotions - Garrison Arena
Sponsor: City of Clemson
Williams, Charles
Anderson Co. Promotions
Sponsor: Anderson County
Total: T. Ed Garrison Arena

Wood Utilization & Design Institute
Layton, Patricia A
Fuels Management and Cultural Landscape Restoration Project at Kings Mountain National

$75,400.40

$2,000.00

$10,000.00

$6,000.00

$9,000.00

$44,450.00
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layton, Patricia A</td>
<td>Utilization of Cross Laminated Timber (CLT) in Low and Mid-rise Buildings for Enhanced Wind Performance</td>
<td>40.00%</td>
<td>$97,982.40</td>
<td>2021432</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> USDA Forest Service (FS)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>Wood Utilization &amp; Design Institute</strong></td>
<td></td>
<td><strong>$142,432.40</strong></td>
<td></td>
</tr>
<tr>
<td>York</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyles, Benjamin L</td>
<td>Capacity Building for USDA-Rural Development Programs in South Carolina</td>
<td>10.00%</td>
<td>$11,204.20</td>
<td>2011735</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Department of Agriculture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyles, Benjamin L</td>
<td>2017 Lancaster County Ag + Art Tour</td>
<td>100.00%</td>
<td>$7,000.00</td>
<td>2011895</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> City of Lancaster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boyles, Benjamin L</td>
<td>2017 York County Ag + Art Tour</td>
<td>100.00%</td>
<td>$6,172.00</td>
<td>2021474</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> York County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel, Faith C</td>
<td>Youth In Action-4-H/FFA Swine Project</td>
<td>100.00%</td>
<td>$1,200.00</td>
<td>2011654</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> United Way of South Carolina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Israel, Faith C</td>
<td>4-H Summer Camp Fund</td>
<td>100.00%</td>
<td>$4,050.00</td>
<td>2012006</td>
</tr>
<tr>
<td></td>
<td><strong>Sponsor:</strong> Charlotte Observer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>York</strong></td>
<td></td>
<td><strong>$29,626.20</strong></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL: PUBLIC SERVICE ACTIVITIES**

$7,908,590.85

**VP FOR RESEARCH AND INTERDISCIPLINARY INSTITUTES**

Research/Electron Micro Facility
<table>
<thead>
<tr>
<th>Name, First Name</th>
<th>Project Title</th>
<th>Contribution</th>
<th>Sponsor</th>
<th>Total:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saraf, Laxmikant Vyankatesh</td>
<td>Advanced Microanalytical Measurements</td>
<td>100.00%</td>
<td>SCUREF</td>
<td>$40,480.00</td>
<td>2010836</td>
</tr>
<tr>
<td>Karanfil, Tanju</td>
<td>RII Track-2FEC: Advanced Biomanufacturing: Getting from the Host Genome to High Quality Medicines More Efficiently</td>
<td>100.00%</td>
<td>SC EPSCOR</td>
<td>$7,000.00</td>
<td>1481088</td>
</tr>
<tr>
<td>Karanfil, Tanju</td>
<td>SRNL External Review of Select Competencies: Environmental Science and Engineering, Chemistry and Radiochemistry, Materials Science and Engineering, and Separations Science and Engineering</td>
<td>20.00%</td>
<td>Savannah River National Laboratory</td>
<td>$20,958.40</td>
<td>2011517</td>
</tr>
<tr>
<td>Sherrill, Windsor Westbrook</td>
<td>P30: Realizing Improved Patient Care through Human-centered Design in the Operating Room (RIPCHD.OR) Learning Lab</td>
<td>2.00%</td>
<td>National Institutes of Health/DHHS</td>
<td>$21,561.78</td>
<td>2010985</td>
</tr>
<tr>
<td>Brown, William H</td>
<td>Clemson Sustainable Community Project</td>
<td>75.00%</td>
<td>Department of Agriculture</td>
<td>$105,000.00</td>
<td>2009684</td>
</tr>
<tr>
<td>Brown, William H</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>60.00%</td>
<td>SC DHHS</td>
<td>$156,483.60</td>
<td>2011535</td>
</tr>
<tr>
<td>Brown, William H</td>
<td>Accelerating Progress: Strengthening Teen Pregnancy Initiatives Among High Need South Carolina Populations (Tier 1A)</td>
<td>100.00%</td>
<td>SC Campaign to Prevent Teen Pregnancy</td>
<td>$15,000.00</td>
<td>2011932</td>
</tr>
<tr>
<td>Brown, William H</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>60.00%</td>
<td></td>
<td>$159,358.20</td>
<td>2012051</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Project Code</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td>SC DHHS</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>60.00%</td>
<td>$317,710.20</td>
<td>2021537</td>
<td></td>
</tr>
<tr>
<td>SC DHHS</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>60.00%</td>
<td>$323,544.60</td>
<td>2022050</td>
<td></td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>ICSS Employment and Training</td>
<td>60.00%</td>
<td>$1,575,477.00</td>
<td>2011767</td>
<td></td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>Nutrition Education and Obesity Prevention (4400014598)</td>
<td>100.00%</td>
<td>$199,929.00</td>
<td>2021752</td>
<td></td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>SNAP-ED Nutrition Education and Obesity Prevention Grant (4400014563)</td>
<td>100.00%</td>
<td>$199,929.00</td>
<td>2021782</td>
<td></td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>University Youth Learning Institute for Implementation Sesame Street Healthy Habits for Life/Let's Move</td>
<td>100.00%</td>
<td>$199,929.00</td>
<td>2021796</td>
<td></td>
</tr>
</tbody>
</table>

**VP FOR RESEARCH AND INTERDISCIPLINARY INSTITUTES**

**Youth Learning Institute**

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Description</th>
<th>Percentage</th>
<th>Amount</th>
<th>Project Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC DHHS</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>40.00%</td>
<td>$104,322.40</td>
<td>2011535</td>
</tr>
<tr>
<td>SC DHHS</td>
<td>ICSS Employment and Training</td>
<td>40.00%</td>
<td>$1,050,318.00</td>
<td>2011767</td>
</tr>
<tr>
<td>Sponsor</td>
<td>Description</td>
<td>Percentage</td>
<td>Amount</td>
<td>Proposal Number</td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>SC Dept of Social Services</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>40.00%</td>
<td>$106,238.80</td>
<td>2012051</td>
</tr>
<tr>
<td>SC DHHS</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>40.00%</td>
<td>$211,806.80</td>
<td>2021537</td>
</tr>
<tr>
<td>SC DHHS</td>
<td>Quality Assurance Services for the Bureau of Long Term Care Services</td>
<td>40.00%</td>
<td>$215,696.40</td>
<td>2022050</td>
</tr>
</tbody>
</table>

**Total: Youth Learning Institute**

**TOTAL: VP FOR RESEARCH AND INTERDISCIPLINARY INSTITUTES**

**GRAND TOTAL:** $109,488,152.00