RESEARCH AND SPONSORED PROGRAMS
Year Ended June 30, 2013

Office of Research
clemson.edu/research
300 Brackett Hall
864-656-2424
Research and Sponsored Program Activity

Year Ended June 30, 2013

Office of Research
300 Brackett Hall
864.656.2424
Research and Sponsored Program Activity
Year Ended June 30, 2013

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Summary of Expenditures
Clemson University
Sponsored Research Expenditures Summary
Fiscal Year 2013

<table>
<thead>
<tr>
<th>College/Area</th>
<th>Direct Expenditures</th>
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Clemson University  
Sponsored Research Expenditures - Detail  
Fiscal Year 2013

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<td>Orangeburg</td>
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<td>477,764</td>
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<td>Spartanburg</td>
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Clemson University
Sponsored Research Expenditures - Detail
Fiscal Year 2013

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<th>Quantity 1</th>
<th>Quantity 2</th>
<th>Quantity 3</th>
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<td>Union</td>
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<td>$23,107</td>
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<tr>
<td>Williamsburg</td>
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<td>York</td>
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<td><strong>$1,159,496</strong></td>
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<td>VP for Research</td>
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<tr>
<td>Clemson Apparel Research</td>
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<td>$-</td>
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<tr>
<td>Advanced Materials</td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
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<td><strong>$11,774,415</strong></td>
<td><strong>$100,912,360</strong></td>
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</table>
Summary of Awards

***Awards totals are summarized to the college and department of the Principal Investigator for the purpose of this annual report only.

***This will not affect the percent credit for each individual that is posted in the Faculty Activity System throughout the year.
Clemson University
Research Awards by Organizational Unit
Fiscal Year 2013 - PI Only

<table>
<thead>
<tr>
<th>Organizational Unit</th>
<th>FY 2013</th>
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<tbody>
<tr>
<td>Engineering &amp; Science</td>
<td>$41,123,732</td>
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<tr>
<td>CCIT</td>
<td>$24,995,729</td>
</tr>
<tr>
<td>Public Service Activities</td>
<td>$16,444,018</td>
</tr>
<tr>
<td>Ag, Forestry &amp; Life Sciences</td>
<td>$9,933,616</td>
</tr>
<tr>
<td>Health, Educ &amp; Human Dev</td>
<td>$4,955,945</td>
</tr>
<tr>
<td>VP Research &amp; Interdisc Institutes</td>
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</tr>
<tr>
<td>Business &amp; Behavioral Science</td>
<td>$1,729,794</td>
</tr>
<tr>
<td>Other Non-College Related</td>
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</tr>
<tr>
<td>Arch, Arts &amp; Humanities</td>
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</tr>
<tr>
<td></td>
<td>FY2012 Awards ($)</td>
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<tr>
<td>----------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>College of Agriculture, Forestry &amp; Life Sciences</td>
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<td>College of Architecture, Arts &amp; Humanities</td>
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<tr>
<td>College of Business &amp; Behavioral Science</td>
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<td>College of Health, Education &amp; Human Dev</td>
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<td>VP for Research &amp; Interdisciplinary Institutes</td>
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<tr>
<td>Clemson Computing &amp; Information Technology</td>
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<td>Other Non-College Related Departments</td>
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<td><strong>TOTAL</strong></td>
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Clemson University
Awards Summary by College/Division-PI Only
Fiscal Year 2013

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<tr>
<th>COLLEGE/DEPARTMENT</th>
<th>DIRECT</th>
<th>INDIRECT</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>College of Agriculture, Forestry and Life Sciences</td>
<td>$8,521,660</td>
<td>$1,411,956</td>
<td>$9,933,616</td>
</tr>
<tr>
<td>College of Architecture, Arts and Humanities</td>
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<td>$23,739</td>
<td>$185,075</td>
</tr>
<tr>
<td>College of Business and Behavioral Science</td>
<td>$1,381,262</td>
<td>$348,532</td>
<td>$1,729,794</td>
</tr>
<tr>
<td>College of Engineering and Science</td>
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<td>$24,995,729</td>
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<td>College of Agriculture, Forestry &amp; Life Sciences</td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>--------</td>
<td>----------</td>
<td>---------</td>
</tr>
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<td>Animal &amp; Veterinary Sciences</td>
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<td><strong>$1,411,956.00</strong></td>
<td><strong>$9,933,616.00</strong></td>
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</table>

<table>
<thead>
<tr>
<th>College of Architecture, Arts &amp; Humanities</th>
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<th>Indirect</th>
<th>Total</th>
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</thead>
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<td><strong>$23,739.00</strong></td>
<td><strong>$185,075.00</strong></td>
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</table>

<table>
<thead>
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<th>College of Business &amp; Behavioral Science</th>
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<td><strong>TOTAL:COLLEGE OF BUSINESS &amp; BEHAVIORAL SCIENCE</strong></td>
<td><strong>$1,381,262.00</strong></td>
<td><strong>$348,532.00</strong></td>
<td><strong>$1,729,794.00</strong></td>
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### COLLEGE OF ENGINEERING & SCIENCE

<table>
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</table>

**TOTAL: COLLEGE OF ENGINEERING & SCIENCE**

$31,952,713.00 | $9,171,019.00 | $41,123,732.00

### COLLEGE OF HEALTH, EDUC & HUMAN DEVELOPMENT

<table>
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<th>Department</th>
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<th>Indirect</th>
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<td>Clinical Ed/Pract&amp;Med Surv Pro</td>
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<tr>
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**TOTAL: COLLEGE OF HEALTH, EDUC & HUMAN DEVELOPMENT**

$4,468,786.00 | $487,159.00 | $4,955,945.00
### PUBLIC SERVICE ACTIVITIES

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**TOTAL: PUBLIC SERVICE ACTIVITIES**

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### VP FOR RESEARCH & INTERDISCIPLINARY INSTITUTES

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<th>Indirect</th>
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**TOTAL: VP FOR RESEARCH & INTERDISCIPLINARY INSTITUTES**

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14
### Clemson Computing & Information Technology

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### Other Non-College Related Departments

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<tbody>
<tr>
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<td>Law Enforcement &amp; Safety</td>
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### Grand Total:

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<td>Award Total</td>
<td>% Award Total</td>
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<td>Automotive and Transportation Technology</td>
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<tr>
<td>Biotechnology and Biomedical Sciences</td>
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<td>Family and Community Living</td>
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<td>Information and Communications Technology</td>
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<td>Sustainable Environment</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>100%</strong></td>
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Summary by Sponsor
Clemson University
Summary by Fund Source
Fiscal Year 2013

- Federal Government: 83%
- Industry and Other Sources: 8%
- State and Local Government: 5%
- Associations, Boards, Foundations and Societies: 4%
CLEMSON UNIVERSITY
Fund Source Comparison
FY 2012 - FY 2013

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<th>2013</th>
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<tr>
<td>and Societies</td>
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<tr>
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<td>Industry/Other</td>
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<tr>
<td>-----------------------------------------------------------</td>
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<tr>
<td><strong>Associations, Boards, Foundations and Societies</strong></td>
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### Clemson University
#### Research Awards by Sponsor
#### Fiscal Year 2013

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<th>2012</th>
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<td>SC Cotton Board</td>
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<td>SC Hospital Association</td>
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<td>Various Private Sponsors</td>
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#### CUF Sponsors

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<td>BASF Corporation</td>
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<tr>
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<td>Cheminova</td>
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<tr>
<td>Dow AgroSciences LLC</td>
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### Associations, Boards, Foundations and Societies Total

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**State and Local Government**

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**Grand Total**

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Clemson University
Research Awards by College, Department, and Principal Investigator
Fiscal Year 2013
Clemson University Research Awards by Principal Investigator
Fiscal Year 2013

**CLEMSON COMPUTING & INFORMATION TECHNOLOGY**

**CCIT Research Support**

Collier, Galen Edan

EAGER: Developing a Framework for a Cyber-Infrastructure General Practitioner Program

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Sponsor: NSF (National Science Foundation)

Co-Inv: Apon, Amy W.
Pepin, James Michael
Von Oehsen, James B

GEAR: CI

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Sponsor: Francis Marion University

**CCIT Research Support Total:** $304,529.00

**CIO Office**

Bottum, James R

Project 2012-AS-13

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Sponsor: Internet2

A Planning Workshop to Scale Condominium Cluster Model to Condo of Condos

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Sponsor: NSF (National Science Foundation)

Co-Inv: Pepin, James Michael

Campus Bridging for Stampede

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Sponsor: University of Texas at Austin

Co-Inv: Gemmill, Jill B

**CIO Office Total:** $479,974.00
Chief Technology Office
Gemmill, Jill B

Novel Software Storage Architecture
Sponsor: Battelle
Co-inv: Brooks, Richard R
Shen, Hai Ying

Pepin, James Michael
Internet 2 Office of the CTO Appointment
Sponsor: Internet2
Co-inv: Mace, Kathryn Petersen

Chief Technology Office Total:
$202,059.00

Computer Systems and Operation
Fraser Jr, Donald H
Admin ITS Oper SC Department of Health & Human Services
Sponsor: SC Health and Human Services

Mainframe Computing - Medicaid Eligibility Determination System (1507400)
Sponsor: SC Health and Human Services
$2,510,647.00 MCMED07

Mainframe Computing - Medicaid Management Information Systems (1507100)
Sponsor: SC Health and Human Services
$4,268,449.00 MCMIS07

Member Management Replacement System
Sponsor: SC Health and Human Services
$465,317.00 MMMRS01

Mainframe Computing - MITA SC Dept of Health & Human Services
Sponsor: SC Health and Human Services
$54,233.00 MTA2012

$89,953.00 2008833

$112,106.00 2009613

$85,549.00 ITS2013
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Medicaid Eligibility Determination System
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$1,789,732.00 MED2007

Medicaid Management Information Systems
Sponsor: SC Health and Human Services
$5,449,009.00 MIS2007

Medicaid IT Services Total:
$16,485,546.00

CLEMSON COMPUTING & INFORMATION TECHNOLOGY Total:
$24,995,729.00

COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES
Animal & Veterinary Sciences
Birrenkott Jr, Glenn P
Animal and Veterinary Sciences - SRR Account
Sponsor: Various Private Sponsors (245)
$5,000.00 1980543

Bodine, Ashby Burgess
Clinical Protocol Evaluation and Development and Assay Development/Validation for Food Supplements
Sponsor: Pharmavite, LLC
$165,779.00 2007376

Stingray Antimicrobial Compounds
Sponsor: Mote Marine Laboratory
$19,693.00 2008364

Duckett, Susan Kay
Understanding How a Lipokine, Palmitoleic Acid (C16:1), and Stearyl-CoA Desaturase (SCD) Influence Fat Synthesis
$130,000.00 2009191
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<td>Correlation of Water Activity to Survival, Recovery of Injured, and Growth of Pathogenic Salmonella in Rendered Animal Products under Different Temperature and Relative Humidity Storage Conditions</td>
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**Animal & Veterinary Sciences Total:**

$518,482.00
Biological Sciences

Baldwin, William S
The Role of Cyp2b in Toxicant Metabolism and Sensitivity
Sponsor: National Institutes of Health/DHHS
$112,969.00 2007133

Increasing Underrepresented Minority Intellectual Capital and Scientific Networking in the Biological Sciences at Clemson University
Sponsor: SC EPSCOR
$2,646.00 2009390

Campbell, Barbara J
Molecular Tracking of Fecal Contamination in Delaware Coastal Waters
Sponsor: University of Delaware
$36,004.00 2009162

Collaborative Research: Do Diverse Epsilonproteobacteria Employ a Novel Nitrate Reduction Pathway?
Sponsor: NSF (National Science Foundation)
$273,320.00 2009240

Growth Rates of Bacterial Taxa in Coastal Marine Ecosystems
Sponsor: NSF (National Science Foundation)
$773,996.00 2009300

Chapman, Susan Caroline
Genome Wide Association Study of the Rumpless and Tufted Traits in the Araucana Chicken Breed
Sponsor: University of South Carolina
$10,000.00 2009268

Childress, Michael J
Student Research
Sponsor: Slocum-Lunz Foundation
$500.00 2009250

DeWalt, Saara J
Implement Assessment Protocol for the Rare Carolina Bogmoint Population at Congaree National Park (CESU)
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)
$23,500.00 2009185

Klaine, Stephen J
Fate, Behavior and Biological Uptake and Effects of Manufactured Nanomaterials
Sponsor: Rice University
Co-inv: Sowers, Anthony D
$102,500.00 2008283

Behavior of Titanium Dioxide Nanoparticles in Surface Waters
Sponsor: L'Oréal USA
Co-inv: Brumaghim, Julia Kitchens, Christopher L Mefford IV, Olin T
$65,000.00 2009285

Mount, Andrew S
Development of Marine Antifouling Coatings Utilizing a Fouling Deterrence Strategy
Sponsor: US Navy
Co-inv: Gohad, Neeraj Vijay
$184,290.00 2008287

Multidimensional 2-Photon Imaging System for the Investigation of Biofouling Mechanisms and Bomineralization Mechanisms in Marine Invertebrates
Sponsor: US Navy
Co-inv: Gohad, Neeraj Vijay
-$346.00 2008552

Exploration of the Role of Matrix Metalloproteinases in the Eastern Oyster, Crassostrea virginica
Sponsor: Slocum-Lunz Foundation
$1,000.00 2009237

Ptacek, Margaret

Sponsor: NSF (National Science Foundation) $17,873.00 2009399

Rice, Charles D
CSES: Building the Capacity to Monitor Coastal Marine Ecosystem Health: Reagent Development and Technical Applications of Novel Antibody and Molecular Tools

Sponsor: National Park Service/Department of the Interior $23,500.00 2009531

Scott, Simon W
Plant Pathology Research

Sponsor: Zeneca Agricultural Products $6,000.00 1980295

Southeastern Budwood Program

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207) $77,497.00 2099313

Sparace, Salvatore A
The Role of Plastid Metabolism in the Accumulation of Storage Reserves in Soybean Seeds

Sponsor: United Soybean Board $102,273.00 2008180

Tzeng, Tzuen-Rong Jeremy
Biological Sciences-SSR

Sponsor: Various Private Sponsors (245) $5,104.00 1980582

Development of Research Grade Goldenseal Phase II

Sponsor: Sleepy Hollow Farm $30,000.00 2009186

Wells, Christina E.
Identifying Reniform Nematode Resistance Genes in Soybean

Sponsor: SC Soybean Board
Co-Inv: Agudelo, Paula

Biological Sciences Total: $1,857,981.00

CAFLS Assoc Dean for Research
Culin, Joseph D
Producing Biological Control Agents for Use in Hemlock Woolly Adelgid Management in the Southern Appalachians

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

CAFLS Assoc Dean for Research Total: $180,000.00

CU Genomics Institute
Saski, Christopher A
Culicoides Sonorensis Transcriptome Project

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

CU Genomics Institute Total: $30,000.00

Food, Nutrition & Package Sci
Condasky, Margaret D.
Cooking With A Chef Training Colleton County School Food Services

Sponsor: Eat Smart Move More SC

Applied Research-Service Collaboration With American Culinary Federation Chef and Child Foundation

Food, Nutrition & Package Sci Total: $5,000.00

209361
**Bunding of Culinology, Nutrition and Packaging in Undergraduate Applied Niche Research**

**Sponsor:** American Culinary Federation

**USDA (UNITED STATES DEPT OF AGRICULTURE)(207)**

**Co-Inv:** Cooper, John Andrew Scott

**Darby, Duncan O**

**Sharp, Julia Lynn**

2099217

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**Fraser, Angela M**

**Building Capacity to Control Viral Food-borne Disease: A Transitional, Multi-Disciplinary Approach**

**Sponsor:** North Carolina State University

**Boys, Kathryn**

**Jiang, Xiuping**

**Sharp, Julia Lynn**

521,042.00

2008605

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**Hurley, Rupert A**

**Waste Bin Liner Development Addendum: Additional Testing**

**Sponsor:** Various Private Sponsors

521,042.00

2009229

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**Jiang, Xiuping**

**Validating Salmonella Inactivation During Thermal Processing of the Physically Heat-treated Chicken Litter as Soil Amendment and Organic Fertilizer**

**Sponsor:** University of California, Davis

**Co-Inv:** Kim, Jinkyung

79,351.00

2008858

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**Kimmel, Robert M.**

**Impact of Flexible Packaging Bag Materials on the Environment**

**Sponsor:** Hilex Poly Company, LLC

**Co-Inv:** Cooksey, Kay D

$179,864.00

2009062
**Food, Nutrition & Package Sci Total:**

$957,090.00

**Genetics and Biochemistry**

**Cao, Wei Guo**

Agreement between Greenwood Genetics Center and Clemson

**Sponsor:** Greenwood Genetics Center

$53,885.00  2006901

**Clark, Leigh Anne**

Naturally Occurring Dog Model for Juvenile Dermatovomitis

**Sponsor:** National Institutes of Health/DHHS

$139,533.00  2009465

Investigation of Diversity at the Dog Leukocyte Antigen Class II Loci in American and International Collies

**Sponsor:** Collie Health Foundation

$10,930.00  2009562

**Feltus, Frank Alexander**

Genomic and Breeding Foundations for Sorghum Bioenergy Hybrids

**Sponsor:** University of South Carolina

$111,859.00  2008698

**Frugoli, Julia**

How Does the Plant Say No More: A Molecular Genetic Approach to Nodule Number Regulation - Supplement to NSF #1146014

**Sponsor:** NSF (National Science Foundation)

$200,948.00  2008843

**Lawton Rauh, Amy Louise**

Population Genetics of Glyphosate in Palmer Amaranth

**Sponsor:** Cotton Incorporated

$45,000.00  2009125

Population Genetics of Glyphosate Resistance in Palmer Amaranth

**Sponsor:** Cotton Incorporated

$39,700.00  2009461
Liang, Haiying
TRPGR: Comparative Genomics of Environmental Stress Responses in North American Hardwoods

Sponsor: Pennsylvania State University

An NSF Research Experiences for Undergraduates (REU) Supplement

Sponsor: Pennsylvania State University

Presentations of Students and Young Scientists at the 2013 32nd Southern Forest Tree Improvement Conference

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)
Co-Inv: Guynn, Susan Talley

Luo, Hong
Bioengineering Cotton for Enhanced Abiotic Stress Tolerance

Sponsor: SC Cotton Board

Bioengineering Soybean for Enhanced Abiotic Stress Tolerance

Sponsor: SC Soybean Board

Marcotte Jr, William R
Structure and Dynamics of the Spider Dragline Silk Assembly Process

Sponsor: Medical University of SC (MUSC)

Genetics and Biochemistry Total:

$980,981.00

School of Ag, For, Env Sciences
Adler, Peter H
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<td>MIDGEPEET: A Collaborative Effort to Increase Taxonomic Expertise in Understudied Families of Nematocerous Diptera</td>
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<td>Black Fly Populations Associated with Whooping Cranes</td>
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<td>Investigations into the Occurrence, Distribution, and Impact of Nematodes in Soybean Fields in the Southern United States</td>
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<td>Occupancy and Community Characteristics of Ephemeral Aquatic Systems by Herpetofauna in Managed Forests of the Southeastern Atlantic Coastal Plain</td>
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<td>The Effects of Forest Management Activities on Community Structure of Stream Salamanders Inhabiting Montane Streams</td>
<td>Greenville Zoo Conservation Fund</td>
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<td>Data Needs Assessment to Support Conservation Planning for the Appalachian LCC</td>
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<td>Repeated Prescribed Fires and Mechanical Fuel Treatments for Restoration in the Southern Appalachian Mountains</td>
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<td>Barrett, Russell K Assessing Priority Amphibian and Reptile Conservation Areas (PARCAS) and Vulnerability to Climate Change in the North Atlantic Landscape Conservation Cooperative</td>
<td>Wildlife Management Institute</td>
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<td>Effects of Stand Age, Wetland Type, and Landscape Matrix on Patterns of Amphibian Occupancy in Managed Coastal Plain Forests</td>
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<td>Bellinger, Robert G South Carolina Pesticide Safety Education Program</td>
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Benson, Eric P
Urban Entomology Program

Sponsor: Dow AgroSciences LLC
$34,500.00 1980326

Brown-Faust, James E.
Horticulture Research - SRR Account

Sponsor: SC Greenhouse Growers Association
$64,250.00 1980337

Product Development for Sterile Oasis®
Growing Medium in a Flexible-film Tissue
Culture Vessel

Sponsor: Smithers-Oasis Corp
$15,000.00 2008455

Evaluating the Potential of New Mycorrhizal
Fungi, Piriformospora indica, to Improve the
Adventitious Rooting of Floriculture Crops in
Propagation

Sponsor: Gloeckner (Fred C.) Foundation, Inc.
Co-Inv: Kerrigan, Julia Louise
$10,000.00 2009163

Developing Dynamic Mist Control Strategies
for the Propagation of Vegetative Cuttings
(Improved Production Methods: North South
Initiative)

Sponsor: USDA (UNITED STATES DEPT OF
AGRICULTURE) (207)
$21,930.00 2096937

Chong, Juang Horng
Efficacy of Experimental Products Against the
Cottony Cushion Scale

Sponsor: University of Florida
$12,500.00 2009179

Chow, Alex T.
Dissolved and Particulate Anthropogenic
Organic Pollutants in the Coastal Environments
of the Southern U.S. (CESU)

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)
$16,817.00 2009221
Conner, William H
Climate Change and Tidally Influenced Freshwater Forested Wetlands of the Southeast: Understanding Functional Ecological Attributes of Forest Transitions to March

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)

Cushing, Tamara Lee
Landscape-Scale Thresholds of Early Successional Habitat: Reconciling Biodiversity, Public Perception, and Timber Yield in Managed Forests

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)
Co-Inv: Baldwin, Elizabeth Dennis

Dobbins, Thomas R
Agricultural Education Professional Development

Sponsor: SC Dept of Education

English, William Rockford
Sustainable Trails Short Course

Sponsor: SC Dept of Parks, Recreation and Tourism

Eversole, Arnold George
General Research Support

Sponsor: Various Private Sponsors (247)

Fouly, Hanafy Mahmoud
The Development, Application, and Evaluation of a New System for Enhancing the Efficiency of Control Agents for the Management of Stink Nematodes on Golf Course Turf

Sponsor: US Golf Association
Co-Inv: Martin Jr, Samuel B

Sponsor: $43,000.00 2007241
Sponsor: $21,008.00 2099061
Sponsor: $59,056.00 2009084
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<td>Gasic, Ksenija</td>
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<td>Enabling Marker Assisted Breeding for Brown Rot Resistance/Tolerance in Peach</td>
<td>SC Dept of Agriculture, Rauh, Bradley L, Schnabel, Guido</td>
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<td>RosBREED: Enabling MAB in Rosaceae</td>
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<td>Developing Molecular Resources Using Next Generation Sequencing and Evaluation of Peach NCGR Germplasm for Drought Resistance</td>
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<td>Chemtura Corporation</td>
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Hammig, Michael Dean
Integrated Pest Management Technologies for Indonesia

Sponsor: Virginia Polytechnic Institute and State University
Co-Inv: Benson, Eric P
Schnabel, Guido

Ecologically-based Partic IPM-SE Asia

Sponsor: Virginia Polytechnic Institute and State University
Co-Inv: Benson, Eric P
Schnabel, Guido
Shepard, Buford Merle

Hassell, Richard L
Evaluation of Effectiveness of Performance Series Sweet Corn Under Varying Insect Pressure to Optimize Value of Performance Series Traits

Sponsor: Monsanto

Hood, William M
General Research Support

Sponsor: American Cyanamid Company

Hughes, David Wheeler
Feasibility and Economic Impact Analysis of a Mixed Use Development: An Engine for Rural Development in Richland and Fairfield Counties, South Carolina

Sponsor: Town of Blythewood

Quantifying the Multiplier Effect: What Sustainable Local Food Systems Can Mean to Local Communities

Sponsor: North Carolina State University

Jayakaran, Anand David
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<td>Rapid Detection and Mitigation of Phytophthora ramorum in Water</td>
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<td>Evaluation of Somatic Seedlings of American Chestnut for Resistance to Phytophthora Root Rot</td>
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<td>Tracking and Managing Diseases of Floriculture Crops Caused by Oomycetes and Fungi: Year 3</td>
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<td>Establishment of Operation of the South Carolina Cooperative Research Unit Base Administrative Funds from SCDNR</td>
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<td>Determining the Movement Patterns and Habitat Use of Seabirds to Support Marine Spatial Planning Along the Atlantic Coast</td>
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Eastern Brown Pelicans: Dispersal, Seasonal Movements, and Monitoring of PAHs and Other Contaminants in the Northern Gulf of Mexico

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)
Co-Inv: McFadden, Katherine Walton

Assessing Nest Success and Habitat Use of Wilson's Plovers #2

Sponsor: SC Dept of Natural Resources

Assessing Nest Success and Habitat Use of Wilson's Plover's #3

Sponsor: SC Dept of Natural Resources

Jones, Michael A
Influence of Irrigation on the Growth, Boll Distribution, Yield, and Fiber Quality of Various Commercial and Experimental Cotton Varieties

Sponsor: SC Cotton Board

Continued Support for the SC Cotton Growers' Annual Meeting

Sponsor: SC Cotton Board

Impact of Reduced Plant Stands, Increased Row Skips, and Terminal Removals on Cotton Growth and Development in South Carolina

Sponsor: SC Cotton Board

Comparison of Newly Released Cotton Cultivars to Older Established Cultivars in South Carolina

Sponsor: SC Cotton Board

Management of Newly-Commercialized Cotton Cultivars: Adaptation, Vigor, and Maturity

Sponsor: SC Cotton Board
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Sponsor: SC Dept of Agriculture

Sensitivity of the Gummy Stem Blight Fungus to New Fungicide Active Ingredients

$7,120.00 2009306

Sponsor: National Watermelon Association

Acquisition of Goods and Services RSA 58-6659-3-118

$45,905.00 2009362

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE) (207)

Khaillian, Ahmad

Climate Variability to Climate Change: Extension Challenges and Opportunities in the Southeast USA

$118,191.00 2008722

Sponsor: University of Florida

Co-Inv: Templeton, Scott R.

Utilizing Interseeding Technology in Cotton Production to Reduce Pest Occurrence and Energy Consumption While Optimizing Farm Profits

$5,268.00 2009414

Sponsor: SC Cotton Board

Co-Inv: Greene, Jeremy K

Henderson Jr., William G

Marshall, Michael W

Developing an Effective Sensor-Based Irrigation Scheduling Technique for Cotton Production in Coastal Plain Soils

$20,000.00 2009431

Sponsor: Cotton Incorporated

Sensor-Based Training for Detection and Site-Specific Management of Stink Bugs in Cotton

$12,000.00 2009462

Sponsor: Cotton Incorporated

Co-Inv: Degenhardt, David Clarence Greene, Jeremy K
Demonstration of Innovative Interseeding Technology for Crop Rotations to Enhance Soil Properties and Reduce Energy Consumption and Pest Occurrence While Optimizing Farm Profits

Han, Young J

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)
Co-Inv: Araki, Yuji
Greene, Jeremy K
Han, Young J
Marshall, Michael W
Monfort, Walter Scott
Mueller, John D

$351,585.00 2099231

Knap, Halina T

Application of Biotechnology to the Control of the Soybean Cyst Nematode (amendment 6)

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

-$47,713.00 2005734

Improvement of Stress Responses in SC Soybeans: Markers and Pathways

Sponsor: SC Soybean Board
Co-Inv: Shipe, Emerson R

$4,500.00 2009136

Application of Biotechnology to Control the Soybean Cyst Nematode (SCN)

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

$47,713.00 2098740

Lamie, Ronald D

MarketMaker Website Development

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

$15,000.00 2009254

Lanham, Joseph D
Wildlife Biosentinel Monitoring for Trends and Effects of Bioaccumulative Chemicals of Concern

Sponsor: Michigan Department of Environmental Quality
Co-Inv: Bowerman IV, William W.

Layton, Patricia A

Cooperative Red-cockaded Woodpecker Translocation Support

Sponsor: DOD (DEPARTMENT OF DEFENSE)

The S.C. Sea Grant Aquaculture Extension Enhancement Program

Sponsor: SC Sea Grant Consortium

Liu, Haibo

Comparing Turfgrass Foliar Nitrogen Uptake of UMASS, UFLXX, and HYDREXX with Urea, and Ammonium Nitrate under Greenhouse Conditions

Sponsor: Koch Industries, Inc.

Turfgrass Research and Education

Sponsor: Various Private Sponsors (245)

Marshall, Michael W

MON-76754 Efficacy on Key Grasses

Sponsor: Monsanto

MON-76745 Efficacy on Key Grases

Sponsor: Monsanto

MON-76757 Fall and Spring Applications

Sponsor: Monsanto

$138,000.00  2096951

$52,000.00  2008189

$55,818.00  2099239

$15,000.00  2009490

$7,000.00  2301018

$2,520.00  2009128

$2,520.00  2009241

$5,040.00  2009324
Demonstrating Cover Crops in Minimum Tillage Production for Management of Herbicide-Resistant Palmer amaranth in SC

Sponsor: Cotton Incorporated

$5,046.00 2009376

Herbicide Programs for Glyphosate-Resistant Palmer Amaranth in DTS- and Enlist-Soybeans

Sponsor: SC Soybean Board

$21,465.00 2009439

Demonstrating Cover Crops in Minimum Tillage Production for Management of Herbicide Resistant Palmer amaranth in South Carolina

Sponsor: Cotton Incorporated

$26,928.00 2009446

Evaluation of the Effect of Weed Growth Stage on the Efficacy of Glufosinate, Dicamba, and 2, 4-D in Cotton

Sponsor: Cotton Incorporated

$14,474.00 2009460

Interaction of Injury from Soil-Applied Herbicides & Thrips Feeding on Cotton Seedling Growth and Development

Sponsor: Cotton Incorporated
Co-Inv: Greene, Jeremy K

$9,983.00 2009473

Monsanto Appendix A Service Order No. 9

Sponsor: Monsanto

$15,120.00 2009557

Service Order No. 5

Sponsor: Monsanto

$11,960.00 2009558

Demonstration of Innovative Sensor-Based Nitrogen Management and Interseeding Technology to Reduce Nutrient Inputs and Weed Populations While Enhancing Farm Profitability in South Carolina

$74,920.00 2099236
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<td>AMVAC Chemical Corporation</td>
<td>Martin Jr, Samuel B Evaluation of Syngenta Experimental Fungicides and Nematicides on Turf 2012</td>
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<td>Developing an Alligator Conservation Strategy for South Carolina</td>
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<td>Do Liquid Soil Conditioners Influence Soil Moisture, Irrigation Needs, Lint Yield and Fiber Quality?</td>
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<td>Pioneer Research 2013 on Transgenic Corn Expressing Bacillus Thuringiensis (Bt) Toxins</td>
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<td>Pioneer Hi-Bred International, Inc.</td>
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<td>Evaluation of Insecticides for Tobacco, Hornworm, Tobacco Budworm, and Tobacco Splitworm Control on Tobacco</td>
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<td>Spatial Association of Soil and Crop Characteristics with Insect Abundance in Cotton</td>
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<td>Improving the Sampling of the Invasive Bean Plataspid (Megacopta cribraria) in South Carolina Soybeans</td>
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<td>Management of the Kudzu Bug/Bean Plataspid, Megacopta cribraria (Hemiptera: Plataspidae), in Soybeans in the Southeastern US</td>
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Occurance and Distribution of Resistance to Elevate and Switch in Populations of Botrytis Cinerea from Strawberries in the Carolinas.

**Sponsor:** University of Florida  
$2,500.00  
2009182

Helping Southern Strawberry Growers Control Gray Mold in Light of Widespread Fungicide Resistance

**Sponsor:** North Carolina State University  
$5,000.00  
2009364

Song, Bo

To Continue Monitoring the Recovery of Coastal Plain Forests from Hurricane Hugo

**Sponsor:** Mellon (Andrew W.) Foundation  
$413.00  
2005719

Straka, Thomas J

Factors Impacting Family Forest Owner Perceptions of Vegetative Control Methods, Effectiveness, and Type of Prescribing Professional Forester

**Sponsor:** Practicing Foresters Institute  
$2,000.00  
2009407

Tharayil, Nishanth

Fellowship for Daniella Triebwasser - Predicted Climate Change Enhances Soil Carbon Stocks by Altering the Soil Nitrogen Cycle

**Sponsor:** NSF (National Science Foundation)  
$43,500.00  
2008533

Turnbull, Matthew W

Manipulation of Kudzu Bug Bacterial Community to Reduce Transmission Efficiency of its Required Nutritional Symbiont

**Sponsor:** SC Soybean Board  
$6,000.00  
2009437

**Co-Inv:** Cao, Min  
Greene, Jeremy K
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<td>Impact of Laurel Wilt Disease on Redbay (Persea borbonia) Ecosystems</td>
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<td>Temporal and Spatial Pattern of Pine Mortality in the Southeastern United States (a continuous project for 3rd year)</td>
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<td>Use of Wetland Systems to Treat Nursery Runoff</td>
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<td>Enhancing the Safety of Locally Grown Produce Through Research and Extension</td>
<td>University of Georgia</td>
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<td>A Coordinated Extension IPM Training Program for South Carolina to Address Stakeholder Needs in Key Commodities</td>
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Sustainable Agriculture Research and Education Professional Development Program Proposal

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)
Co-Iv: Tanner, Shann Cory

South Carolina SARE Model State Program, 2012 - 2013

Sponsor: University of Georgia

South Carolina SARE Model State Program, 2012 - 2013

Sponsor: University of Georgia

Zungoli, Patricia A
Urban Entomology Research

Sponsor: Dow AgroSciences LLC

School of Ag, For, Env Sciences Total:

$5,409,082.00

COLLEGE OF AGRICULTURE, FORESTRY & LIFE SCIENCES Total:

$9,933,616.00

COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES

Construction Science and Mgmt

Piper, Christine A

Development of a training program:
"Introduction to Modular Construction"

$48,125.00

2009379
Construction Science and Mgmt Total: $48,125.00

English

Skrodzka-Bates, Agnieszka
South Arts’ Southern Circuit Film Festival $2,400.00 2009450

Sponsor: South Arts

Williams, Sean D.
South Arts Southern Circuit Program $2,400.00 2009310

Sponsor: South Arts

English Total: $4,800.00

Landscape Architecture

Russell, Paul C
Casey Trees Farm Master Plan Design Competition and Awards Program $5,000.00 2009164

Sponsor: Casey Trees

Landscape Architecture Total: $5,000.00

Languages

Kishimoto, Toshiko
The 27th Annual Conference of South Eastern Association of Teachers of Japanese Conference $2,000.00 2008815

Sponsor: Northeast Asia Council of the Association for Asian Studies (NEAC)

Languages Total: $2,000.00

Performing Arts
Hartmann, David J
Clemson University Brooks Center for the Performing Arts Regional Advertising Campaign

Sponsor: City of Clemson $9,000.00 2004333

Performing Arts Total: $9,000.00

School of Architecture
Huff, Raymond T
Clemson University Student Public Service Assistantship/Sara Hawkins

Sponsor: Novus Architects $3,000.00 2009325

Clemson University Student Public Service Assistantship/John Caveney

Sponsor: Meadors Construction $3,000.00 2009326

Clemson University Student Public Service Assistantship

Sponsor: New World Byzantine $3,000.00 2009327

Clemson University Student Public Service Assistantship/Nicole Miller

Sponsor: Liollio Architecture $3,000.00 2009337

School of Architecture Total: $12,000.00

School of PDPLA
Ellis, Clifford Donald
Student Public Service Assistantship: Kristen H. Wyche

Sponsor: McCallum-Sweeney $8,690.00 2007383

Student Public Service Assistantship: Felicia Boulware

Sponsor: City of Greenville $5,794.00 2008628
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<td>Jacob Elliott</td>
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<td>Anna Whitener</td>
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<td>Jennifer Folz</td>
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Sponsor:  Global Location Strategies

Student Public Service Assistantship: Alyson Leslie

$6,952.00  2009230

Sponsor:  City of Woodruff

Student Public Service Assistance: Courtney O’Neil

$6,850.00  2009289

Sponsor:  City of Greenville

School of PDPLA Total:

$104,150.00

COLLEGE OF ARCHITECTURE, ARTS & HUMANITIES Total:

$185,075.00

COLLEGE OF BUSINESS & BEHAVIORAL SCIENCE

Economics

Sauer Jr, Raymond D

Applied International Monetary Economics--AIME

$10,589.00  2007399

Sponsor:  US DEPARTMENT OF EDUCATION

Economics Total:

$10,589.00

Graphic Communications

O’Hara, Liam Henry

Translating Printed Electronics Process Technology from Laboratory to Commercial Scale

$358,689.00  2099170

Sponsor:  Flex Tech Alliance

Co-Inv:  Kahn, Bruce E

Tonkin III, Charles Edward

Graphic Communications Total:

$358,689.00
**Management**

Gartner, William B  
PACE Promoting a Culture of Entrepreneurship:  
Unleashing Enterprising Creativity through Novel Pedagogy  
Sponsor: Aarhus University  
$54,771.00  
2099257

Thatcher, Jason B  
EAGER: Social Web Election Listening for Learning  
Sponsor: NSF (National Science Foundation)  
Co-Inv: Appleford, Simon James  
Burton, Orville Vernon  
Byrd, Vetria Laverne  
$262,653.00  
2009173

Collaborative Research: Planning Grant:  
I/UCRC for Social Technologies and Analytics  
Sponsor: NSF (National Science Foundation)  
Co-Inv: Apon, Amy W.  
Von Oehsen, James B  
$15,985.00  
2009369

CREATIV: Tools, Models, and Innovation Platforms for Research on Social Media  
Sponsor: University of Washington  
$45,726.00  
2009403

**Management Total:**  
$379,135.00

**Political Science**

Hu, Xiaobo  
South Korea's Rise in Comparative Perspective  
Sponsor: The Academy of Korean Studies  
$10,000.00  
2099583

**Political Science Total:**  
$10,000.00
Psychology

Britt Jr, Thomas W.
An Assessment of Reserve Component Family Members
Sponsor: Washington & Jefferson College
$6,218.00 2009288

Pak, Chong Hyon
Anthropomorphic Interfaces on Automation Trust, Dependence, and Performance in Younger and Older Adults
Sponsor: Department of the Air Force
$82,522.00 2009082

Tyrrell, Richard A
Dwight David Eisenhower Transportation Fellowship Program-Stephanie Whetsel
Sponsor: Department of Transportation
$5,000.00 2009114

Enhancing the Nighttime Conspicuity of Athletes: Part I
Sponsor: Nike, Inc.
$35,000.00 2009133

Psychology Total: $128,740.00

Small Business Development Ctr

Burroughs, Jill K
Small Business Development Center - Operating Grant (State)
Sponsor: University of South Carolina
$30,993.00 2008782

Small Business Development Center - Operating Grant (Federal)
Sponsor: University of South Carolina
$59,943.00 2008783

Small Business Development Center - Operating Grant (Federal)
Sponsor: University of South Carolina
$377,183.00 2009336
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<td>CAREER: Hierarchical Mechanical Models of Cell Constructs</td>
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<td>Desjardins, John D I-Corps Team: A Novel Functional Shoulder Brace to Limit Dislocation</td>
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<td>Tissue-Engineered Repair of Cranial Facial Muscle</td>
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<td>Supporting in Vitro Vascular Structure Maturation by Enhancing Elastic Fiber Assembly</td>
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<td>Biomechanical Characterization and Modeling of Human TMJ Disk - Fellowship for Gregory Wright</td>
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<td>Developing DriveSafety Driving Simulator Applications and Training Tools for Therapists to Assist Patients with Autism</td>
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<td>In-Vehicle Diesel-Assisted Natural Gas Operation for Compression Ignition Engines</td>
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Chemical & Biomolecular Eng

Bruce, David A
Computational Catalysis and Atomic-level Synthesis of Materials: Building Effective Catalysts from First Principles

Sponsor: Louisiana State University

Husson, Scott M
REU Supplement: GOALI: Understanding Plasticization and Compaction Mechanisms in Perfluorocyclobutyl Polymer Thin Films and Membranes

Sponsor: NSF (National Science Foundation)

Alternative Sample Loading Preparation for Thermal Ionization Mass Spectrometry

Sponsor: DOE (UNIVERSITIES DEPARTMENT OF ENERGY)

Co-Inv: Powell, Brian A.

Multimodal Membranes for High-throughput Bioseparations

Sponsor: NSF (National Science Foundation)

The Roles of Cross-Flow Velocity and Retentate Solids Content on Ultrafiltration of Rendering Facility Wastewater

Sponsor: Various Private Sponsors (247)

REU Site: Advanced Functional Membranes

Sponsor: NSF (National Science Foundation)

Co-Inv: Brown, Philip J
Creager, Stephen E
Jenkins, Eleanor W
Kitchens, Christopher L
Ladner, David Allen
Luzinov, Igor A.
Mefford IV, Olin T

$162,837.00  2097691

$7,500.00  2009079

$740,813.00  2009101

$262,086.00  2009184

$34,879.00  2009501

$109,708.00  2098331
Location of Biological Foulanets within a Wet Membrane Structure

Sponsor: University of Colorado

Kitchens, Christopher L
Collaborative Research: Processing and Properties of Cellulose Films

Sponsor: NSF (National Science Foundation)

Enhanced Nitrogen Use Efficiency Through a Protein Byproduct Delivery Mechanism

Sponsor: Virtual Fertilizer Research Center
Co-Inv: Klaine, Stephen J
Kropp, Jaclyn D.
Mefford IV, Olin T
Tharayil, Nishanth
Wells, Christina E.

Ogale, Amod A
Carbon Fibers Derived from Sustainable Precursors

Sponsor: DOD (DEPARTMENT OF DEFENSE)
Co-Inv: Greene, Annel K

Tungsten Powder-filled Polyethylene Fibers and Nonwoven Webs

Sponsor: American Ceramic Technology, Inc. (ACT)

Thies, Mark C
Lignin Recovery and Purification

Sponsor: TECHFISH, LLC

Ultrapure Lignin From Black-Liquor Streams as a Renewable Biopolymer

Sponsor: PPG Industries
Co-Inv: Bruce, David A
GOALI: Low-Ash Lignin Biofuel from Black-Liquor Streams

Sponsor: NSF (National Science Foundation)  
$299,999.00  
2099092

**Chemical & Biomolecular Eng Total:**  
$2,406,836.00

**Chemistry**

Anker, Jeffrey Nathan

Investigating Mechanism of Intracellular Rotational Transport with Optical Tracking Magnetic Twisting Cytometry

Sponsor: National Institutes of Health/DHHS  
$68,994.00  
2099220

Co-Inv: Brumaghim, Julia

CAREER: High Resolution Spectrochemical Imaging Through Tissue

Sponsor: NSF (National Science Foundation)  
$325,759.00  
2009374

Co-Inv: Mefford IV, Olin T

Telluride Science Research Meeting on "Frontiers in Biomagnetical Particles III", In Telluride, CO June 2-5, 2013

Sponsor: National Institutes of Health/DHHS  
$8,000.00  
2009468

Co-Inv: Mefford IV, Olin T

Developing Optical Strain Gauges for Passive Remote Strain Sensing

Sponsor: SC Space Grant Consortium  
$18,000.00  
2099509

Arya, Dev Priya

Targeting RNA Conformation for Drug Development

Sponsor: NUBAD, LLC  
$138,244.00  
2009127

Inhibiting Drosha-Catalized MicroRNA Biogenesis

Sponsor: Medical University of SC (MUSC)  
$15,500.00  
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Brumaghim, Julia
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Continuation of: Biodegradable Lactide Nanoparticle for the Destruction of Malodorous Organics

Sponsor: Various Private Sponsors (247)
Co-Inv: Alexis, Frank

Chemistry Total: $32,070.00 2009500

Civil Engineering

Andrus, Ronald D.
Fellowship for Michael Paul Esposito: Use of Mobile Shaker for In Situ Liquefaction Resistance and Dynamic Behavior of Natural Sand Deposits Near Charleston

Sponsor: NSF (National Science Foundation)

$43,500.00 2008437

Atamturktur, Huriye Sezer
Structural Integrity Assessments at Fort Sumter National Monument (FSNM)

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)
Co-Inv: Brosnan, Denis A
Ravichandran, Nadarajah

$42,000.00 2008510

Masonry Structural Design Competition for Civil Engineering and Architecture Students

Sponsor: National Concrete Masonry Association

$14,000.00 2009249

Burati Jr, James L
State Work Zone Safety Training Program

Sponsor: SC Dept of Transportation

$476,164.00 2007881

Transportation Technology Transfer Service (T3S)

Sponsor: SC Dept of Transportation

$364,260.00 2009266
Chowdhury, Mashrur A
Dwight David Eisenhower Transportation Fellowship - Mr. Yiming He

Sponsor: Department of Transportation
Amount: $5,000.00
Account: 2009107

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Juang, Charng-hsein
Transforming Robust Design Concept into a Novel Geotechnical Design Tool

Sponsor: NSF (National Science Foundation)
Co-Inv: Atamturktur, Huriye Sezer
Amount: $12,000.00
Account: 2008840

Sponsor: US DEPARTMENT OF EDUCATION
Co-Inv: Andrus, Ronald D.
Atamturktur, Huriye Sezer
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Huang, Yongxi
Klotz, Leidy E
Martin, Julie Patricia
Pang, Weichiang

Amount: $534,876.00
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Kaye, Nigel Gregory
Civil Engineering - SHH Account

Sponsor: Various Private Sponsors (245)
Amount: $15,000.00
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Klotz, Leidy E
Graduate Fellowship: Jackie Blizzard: A Whole-System Approach to Design Engineers of the Future

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<td>Accelerated Bridge Construction—An Investigation of a Precast Alternative for Flat Slab Span</td>
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Shear Strength of Stud Rail Assemblies - Fellowship for Mahmoodreza Soltani

Sponsor: Portland Cement Association Education Foundation

Sarasua, Wayne A
Support for the Development and Implementation of an Access Management Program Through Research and Analysis of Collision Data

Sponsor: SC Dept of Transportation
Co-Inv: Chowdhury, Mashrur A
Ogle, Jennifer H

Dwight David Eisenhower Transportation Fellowship Program 2013 - Kweku Brown

Sponsor: Department of Transportation

Testik, Firat Yener
Jet Disposal of Dredge Spoil: Transport, Entrainment, and Deposition of Fluid Mud

Sponsor: US ARMY
Co-Inv: Khan, Abdul A

Critical Raindrop Characteristics: Fall Speed, Shape, and Size Distributions

Sponsor: NSF (National Science Foundation)

Civil Engineering Total: $3,084,760.00

Dean of Engineering & Science
Gramopadhye, Anand K
Center for Aviation and Automotive Technology Education using Virtual E-School [CA2VES]: A Resource to Meet the Aviation and Automotive Technician Workforce Needs of South Carolina

Sponsor: NSF (National Science Foundation)
Co-Inv: Duchowski, Andrew T

Sponsor: NSF (National Science Foundation)

Co-Inv: Duchowski, Andrew T

$694,464.00

2008657
SC ACCELERATE Consortium

Haque, Imtiaz Ul
Kurz, Mary Elizabeth
Venhovens, Paul
Wagner, John R

Sponsor: Greenville Technical College

$447,418.00  2009305

Dean of Engineering & Science Total:  

$1,141,882.00

Electrical & Computer Engr

Brooks, Richard R
Software Deception as a Countermeasure to
Attacks on Software Protection Systems

Sponsor: Sentar, Inc.

$48,403.00  2009195

Burg, Timothy C
I-Corps: A Novel Surgical Simulator for Evaluating and Training Force-Based Laparoscopic Skills

Sponsor: NSF (National Science Foundation)
Co-inv: Perpall, Elizabeth Anne

$50,000.00  2009628

Corzine, Keith A
Protection Methods for DC Ship Power Systems Using the Z-Source Breaker

Sponsor: US Navy

$75,000.00  2009587

Dong, Liang
Advanced Optical Fibers for High Power Lasers

Sponsor: US AIR FORCE
Co-inv: Ballato, John M

$390,710.00  2008172

Polarization-Maintaining Large-core All-solid Photonic Bandgap Fibers for Power Scaling of High Power Fiber Lasers

Sponsor: US AIR FORCE

Co-inv: Ballato, John M

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<td>3D Meta-Optics for High Energy Lasers</td>
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<td>University of North Carolina at Charlotte</td>
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<td>and Organic Radical Battery (ORB)</td>
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<td>Network Intrusion Prevention and Detection System Using Snort on the Solarflare SFA6902F ApplicationOnload Engine Platform</td>
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<td>Solarflare Communications, Inc.</td>
<td>Venayagamoorthy, Ganesh Kumar Collaborative Research: Computational Intelligence Methods for Dynamic Stochastic Optimization of Smart Grid Operation</td>
<td>$180,263.00</td>
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Situational Intelligence for Smart Grid Optimization and Intelligent Control
Sponsor: NEC Laboratories America, Inc.
Funding: $35,000.00
Co-Inv: 2009433

Clemson University's Synchrophasor Education Engineering Program (CU-ShEEP)
Sponsor: NSF (National Science Foundation)
Funding: $690,665.00
Co-Inv: 2009494

Walker, lan D
RI-Medium: Collaborative Research: Real-time Continuum Manipulation
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)
Funding: $200,000.00
Co-Inv: Corzine, Keith A

NRI-Small: Long, Thin Continuum Robots for Space Applications
Sponsor: NASA
Funding: $106,144.00
Co-Inv: Dawson, Darren M

Wang, Kuang-Ching
GENI WiMAX at Clemson
Sponsor: BBN Technologies
Funding: $95,237.00
Co-Inv: Martin, James J
Co-Inv: Pepin, James Michael

CC-NIE Integration: Clemson-NextNet
Sponsor: NSF (National Science Foundation)
Funding: $990,897.00
Co-Inv: Bottum, James R
Co-Inv: Feltus, Frank Alexander
Co-Inv: Gemmill, Jill B

Co-Inv: 2009197
Wang, Pingshan


Sponsor: NSF (National Science Foundation)

Label-free RF imaging of cell membrane heterogeneity in liquid

Sponsor: National Institutes of Health/DHHS

Zhu, Lin

Proposal Supplement: Coupling Grating-Confined Zigzag Modes for High Power, High Brightness Applications

Sponsor: US ARMY

Coupled Optomechanical Resonators and Arrays

Sponsor: NSF (National Science Foundation)

Electrical & Computer Engr Total: $7,181,019.00

Engineering & Science Education

Benson, Lisa C

Collaborative Research: Engineering Education Research Leader NetWorkshops: Mentoring, Communicating, and Power Brokering for the Next Generation

Sponsor: NSF (National Science Foundation)

Kwartowitz, David M

Pepin, James Michael

Schmiedt, Daniel M

Tessendorf, Jerry A.

Thatcher, Jason B
Hazari, Zahra Sana
CAREER: Changing the Landscape: Towards the Development of a Physics Identity in High School

$103,830.00  2007891
Sponsor: NSF (National Science Foundation)

Potvin, Geoffrey Douglas
Female Empowerment in Engineering-Fellowship Allison Godwin

$42,000.00  2009063
Sponsor: NSF (National Science Foundation)

Engineering & Science Education Total: $191,793.00

Environmental Engr & Earth Sci
Devol, Timothy A
Ultra-Trace-level Quantification of Alpha and Beta emitting Radionuclides with Extractive Scintillating Resin

$350,001.00  2008965
Sponsor: Defense Threat Reduction Agency
Co-Inv: Husson, Scott M

Nuclear Forensics Education Award Program

$119,044.00  2098661
Sponsor: Medical University of SC (MUSC)

Nuclear Forensics Education Award Program

$100,000.00  2099228
Sponsor: Medical University of SC (MUSC)

Falta Jr, Ronald W
Subsurface Thermal Energy Storage for Improved Heating and Air-Conditioning Efficiency

$130,000.00  2007922
Sponsor: US ARMY
Co-Inv: Molz III, Fred John
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<td>Finneran, Kevin Thomas</td>
<td>Combined Biological and Chemical Mechanisms for Degradation of Insensitive Munitions in the Presence of Alternate Explosives</td>
<td>US ARMY</td>
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<td>Freedman, David L</td>
<td>Analysis of Microcosms</td>
<td>Battelle</td>
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<td>Karanfil, Tanju</td>
<td>Quantitative Structure-Adsorbability Relationships for the Adsorption of Organic Chemicals by Carbon Nanotubes</td>
<td>NSF (National Science Foundation)</td>
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<td>Ladner, David Allen</td>
<td>Separate growth Environments for Optimization of Nutrient Use in Algal Culturing Systems - Fellowship for Muriel Steele</td>
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<td>Coupling Small-Particle Adsorbents with Membranes for Trace-Contaminant Removal in Water Treatment</td>
<td>NSF (National Science Foundation)</td>
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<td>Lee, Cindy M</td>
<td>Modeling Switchgrass Production in South Carolina Based on Farmer's Decisions: A Stochastic and Spatial Analysis</td>
<td>EPA (Environmental Protection Agency)</td>
<td>$14,610.00</td>
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Moysey, Stephen Michael
Undergraduate Research Apprenticeship
Program (URAP): Robots, Radar, and Recon -
Engaging Students in Landmine Detection
Research at Clemson

Sponsor: US ARMY $27,233.00 2008015

CAREER: Advancing the Mechanistic
Understanding of Field-Scale Preferential Flow
and Transport Processes in Soils using
Geoohvsics

Sponsor: NSF (National Science Foundation) $141,342.00 2008834

Powell, Brian A.
Department 0978 Apparao Rao - SRR Account

Sponsor: Various Private Sponsors (245) $5,000.00 1980734

Stabilization of PU Surface Complexes on
Mineral Colloids by Natural Organic Matter

Sponsor: Lawrence Livermore National Labs $115,000.00 2008694

Clemson University Nuclear Forensics Junior
Faculty Award

Sponsor: University of South Carolina $100,000.00 2009169

Uranium Particle Characterization

Sponsor: SC Universities Research and Education
Foundation $45,349.00 2009354

SRR Technical Support Provided by Clemson
University

Sponsor: SC Universities Research and Education
Foundation $118,378.00 2009357

Co-Inv: Arai, Yuji

Clemson University Nuclear Forensics Junior
Faculty Award

Sponsor: University of South Carolina $40,000.00 2098175
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<td>A Collaborative Healthcare Engineering Research Partnership: Clemson + SCHA</td>
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<td>Cho, Byung Rae</td>
<td>Six Sigma Applications for Quality and Process Improvement</td>
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<td>Ferrell Jr, William G</td>
<td>Collaborative Research: Center for Excellence in Logistics and Distribution, Phase II</td>
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<td>Analysis of Stores and Spare Parts Inventory at SRNL</td>
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<td>Maintenance Scheduling Assessment and Dynamic Scheduling Tool Development/Enhancement</td>
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<td>Neyens, David M</td>
<td>Understanding User Requirements for an Electronic Consent System in Cancer Research</td>
<td>University of Texas at Austin</td>
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<td>Rodriguez, Antonia Joy</td>
<td>Anesthetic Medication Human Factors Work Systems Comparing Self-Filled vs. Prefilled Medication Syringes in the Operating Room Setting</td>
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<td>Taaffe, Kevin M</td>
<td>Creating and Assessing Block Allocations for an Operating Room Suite</td>
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<td>Creating Learning Systems with Mobile Technology to Improve Coordination in Perioperative Services</td>
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<td>Novel Optical Fiber Materials with Engineered Brillouin Gain Coefficients SSL-1:</td>
<td>University of Illinois at Urbana-Champaign</td>
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<td>High Performance Stretched Polymer Fibers</td>
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<td>Polymer Kelp Fiber Development</td>
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<td>Acrylic/Copolyramid Bi-Component Wet Spinning with a Focus on Scaled up Production and Product Enhancement</td>
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Collaborative Research: Planning Grant: I/UCRC for the Ceramic, Composite and Optical Materials Center

Sponsor: US ARMY
Co-Inv: Sharp, Julia Lynn

$80,000.00 2097988

Jacobsohn, Luiç Gustavo
Synthesis-Microstructure-Performance Relations in Oxide Ceramic Scintillators

Sponsor: NSF (National Science Foundation)
Co-Inv: Ballato, John M
Kolis, Joseph W

$375,187.00 2009009

Photonic Crystals for Enhanced Light Outcoupling of Scintillation Based Detectors

Sponsor: NSF (National Science Foundation)
Co-Inv: Devol, Timothy A

$18,166.00 2009570

SC Universities Research and Education Foundation

Kennedy, Marian Siobhan
The Ferrous Metallurgy Education Today (FeMET) Curriculum Development Program

Sponsor: AIST Foundation

$5,000.00 2008157

Collaborative Research: Developing Engineer of 2020 Traits: How do Non-curricular Activities Impact African American Students

Sponsor: NSF (National Science Foundation)

$178,515.00 2008808

Collaborative Research: Research Initiation Grant: Influence of Motivation on Learning Outcomes in an Engineering Service Course

Sponsor: NSF (National Science Foundation)
Co-Inv: Martin, Julie Patricia

$75,001.00 2009152
REU Site: Interfaces and Surfaces: Exploring and Experiencing Science (I SEE Science)

**Sponsor:** NSF (National Science Foundation)  
**Co-Inv:** Anker, Jeffrey Nathan  
Ballato, John M  
Dean, Delphine  
Desjardins, John D  
Foulger, Stephen H.  
Hudson, Joan Strine  
Kitchens, Christopher L  
Kornev, Konstantin German  
Luzinov, Igor A.  
Mefford IV, Olin T  
Qiao, Rui  
Vertegel, Alexey Alexandrovich

Kornev, Konstantin German  
**Magnetic-field-Assisted Assembly of Ordered Multifunctional Ceramic Nanocomposites for Extreme Environments**

**Sponsor:** US AIR FORCE  
**Co-Inv:** Luzinov, Igor A.  
Peng, Fei

Luzinov, Igor A.  
**Functional Nano and Micro Structured Composite Coatings**

**Sponsor:** US AIR FORCE  
**Co-Inv:** Kornev, Konstantin German

Materials World Network: Switchable Polymer Interfaces for Bottom-up Stimulation of Mammalian Cells

**Sponsor:** NSF (National Science Foundation)

One Way Valve for PP Non-Woven Material

**Sponsor:**  
**Co-Inv:**
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<td>Kimberly-Clark</td>
<td>Burtovyy,Ruslan</td>
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<td>Symposium: Remotely Controlled Colloids, Interfaces and Biosystems</td>
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<td>Travel Scholarships for Frontiers in BioMagnetic Particles 2013</td>
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<td>Anker,Jeffrey Nathan</td>
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<td>Advanced Materials Training and Research</td>
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<td>Hwu,Shiou-jyh</td>
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<td>Rack,Henry J</td>
<td>Modeling of Solid State Joining Processes for Clemson University for Robust Metals Supply Chain Development</td>
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High Strength Characterization

Richardson, Kathleen Ann
MILMI - International Masters in Laser materials and Interactions

Sponsor: Boeing

$70,000.00  2009398

Compact, Highly Sensitive and Selective, Mid-Infrared (MIR) Chemical Sensors

Sponsor: University of Central Florida

$19,868.00  2007113

Urban, Marek W
Nanoconjugate Based on Polymeric Acid for Brain Tumor Treatment - Subaward

Sponsor: Cedars-Sinai Medical Center

$11,399.00  2009382

Materials Science & Engineering Total: $3,185,182.00

Mathematical Sciences

Brown, James L
Southeastern Conference for Undergraduate Women in Mathematics

Sponsor: Mathematical Association of America

$5,988.00  2009456

Burr, Michael Adam
Simons Grant for Collaborations Between Algebraic Geometry and Computer Science

Sponsor: Simons Foundation

$35,000.00  2009485

Calkin, Neil J
2013 & 2014 Clemson Mini-Conference

Sponsor: National Security Agency

$8,500.00  2009525
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<td>Macauley, Matthew</td>
<td>Algebra, Combinatorics, and Biology</td>
<td>Simons Foundation</td>
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<td>Analysis and Stability of Dynamical Systems Models over Networks</td>
<td>NSF (National Science Foundation)</td>
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<td>Matthews, Gretchen L.</td>
<td>Iterative Decoding of Q-ary Parity-check Codes and Related Problems</td>
<td>National Security Agency</td>
<td>$29,833.00</td>
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<td>Mitkovski, Mishko</td>
<td>NSF/CBMS Regional Conference in the Mathematical Sciences: Uncertainty Principles in Harmonic Analysis: Gap and Type Problems</td>
<td>NSF (National Science Foundation)</td>
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<td>Hilbert Spaces of Analytic Functions and Their Applications - Transfer</td>
<td>NSF (National Science Foundation)</td>
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<td>Poznanovik, Svetlana</td>
<td>Analysis of Stochastic Context-Free Grammars for RNA Secondary Structure Prediction</td>
<td>NSF (National Science Foundation)</td>
<td>$129,020.00</td>
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<td>Rebholz, Leo G</td>
<td>5th Annual Graduate Student Mini-Conference in Computational Mathematics</td>
<td>NSF (National Science Foundation)</td>
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<td>Co-Inv: Goddard, Wayne D</td>
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<td>Sharp, Julia Lynn</td>
<td>Course, Curriculum, and Laboratory Improvement: Statistical Analysis of Statistics Curriculum</td>
<td>North Georgia College &amp; State University</td>
<td>$3,819.00</td>
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<td>Identifying the Perceived Value of Statistical Consulting in a University Setting</td>
<td>American Statistical Association (ASA)</td>
<td>$5,200.00</td>
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<td>Williams, Calvin L</td>
<td>Improving Middle Grades Teacher Quality through the Clemson Mathematics Institute and Video Club</td>
<td>SC Commission on Higher Education</td>
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<td>Xue, Hui</td>
<td>Derivatives of Eisenstein Series</td>
<td>Simons Foundation</td>
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<td>Pants and Sermon Meetings in the Southeast</td>
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<td><strong>Mechanical Engineering</strong></td>
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<td>Battisti, Ilenia</td>
<td>Collaborative Research: Hybrid Modeling of Reactive Transport in Porous and Fractured Media</td>
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<td>$179,998.00</td>
<td>2009448</td>
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Fadel, Georges M
Packaging or Layout Optimization
Methodologies Considering Thermal Aspects
Sponsor: University of Michigan
$40,000.00  2004341

Software for 3D Printing
Sponsor: Nanjing Boyan Automation Co., Ltd
$22,838.00  2009496

Battery Thermal Packaging Design
Sponsor: University of Michigan
$15,000.00  2009515
Co-Inv: Wiecek, Margaret Maria

Grujicic, Mica
Elastomeric Polymer-by-Design to Protect the Warfighter Against Traumatic Brain Injury by Diverting the Blast Induced Shock Waves from the Head
Sponsor: Pennsylvania State University
$50,000.00  2007612

Friction Stir Welding Behavior of Selected 2000-series and 5000-series Aluminum Alloys
Sponsor: US ARMY
$99,010.00  2008488

Concept Validation and Optimization for a Vent-based Mine Blast Mitigation System
Sponsor: US ARMY
$50,000.00  2008714

Modeling of Solid State Joining Processes: Robust Metals Supply Chain Development
Sponsor: Boeing
$60,000.00  2009189
CAREER: Understanding Process-Induced Damage in Laser-Assisted Cell Direct Writing - Research and Education in Biomedical Manufacturing
Sponsor: NSF (National Science Foundation) $151,824.00 2006476

Collaborative Research: Laser-Assisted Orifice-Free Fabrication of Viscous Alginate Microspheres
Sponsor: NSF (National Science Foundation) $316,783.00 2008973

Joseph, Paul F
Development of a Two Dimensional Pneumatic Tire Model
Sponsor: Michelin Corporation $11,506.00 2009109

Miller, Richard S
Electrolux-Cabinet and Door Interface Analysis
Sponsor: Electrolux Major Appliances North America $78,183.00 2009474
Co-Inv: Wagner, John R

Mocko, Gregory
Efficient Assembly Planning Process Through Enhanced Knowledge Base
Sponsor: BMW Manufacturing Corporation $296,268.00 2009396
Co-Inv: Kruz, Mary Elizabeth Mears, Michael L Summers, Joshua D.

Qiao, Rui
Molecular Physics of the Electrical Double Layers in Ionic Liquids - Supplement for Existing nNSF Projects
Sponsor: NSF (National Science Foundation) $2,000.00 2007935
Non-Equilibrium Transport of Strongly Correlated Electrolytes in
Sponsor: NSF (National Science Foundation) $299,250.00 2009539
| Collaborative Research: Kinetics of Autonomous Catalytic Nanomotors in Confined and Crowded Environments | Sponsor: NSF (National Science Foundation) | $55,219.00 | 2009544 |
| Ramasubramanian, M K | NSF GRF & Biofabrication of Cellular Microspheroids for Organ Printing | Sponsor: NSF (National Science Foundation) | $43,500.00 | 2007941 |
| NSF IPA | Sponsor: NSF (National Science Foundation) | $37,307.00 | 2009088 |
| Scaffold-Free Fabrication of Vascular Constructs Using Inkjetting | Sponsor: SC EPSCOR | $60,000.00 | 2009166 |
| Summers, Joshua D. | Computational Support to Develop a Verification and Validation Plan to Reduce Engineering Change Propagation in Vehicle Configuration Design | Sponsor: University of Michigan | $66,591.00 | 2009203 |
| Co-Inv: Fadel, Georges M | | | | |
| Tong, Chenning | DURIP: Instrumentation for Simultaneous two-dimensional Quantitative Imaging of Mixture Fraction, Temperature, and Velocity in Turbulent Non-premixed/partially Premixed Flames | Sponsor: US AIR FORCE | $316,808.00 | 2009232 |
| Vahidi, Ardalan | Ultracapacitor Energy Storage for Improving Fuel Economy and Extending battery Life in Heavy Vehicles | Sponsor: University of Michigan | $77,795.00 | 2008456 |
Prediction of Traffic Signal State via Crowd Sourcing to Enable Energy Efficient Driving

**Sponsor:** BMW Manufacturing Corporation

$42,873.00 2009177

Prediction of Traffic Signal State via Crowd Sourcing

**Sponsor:** BMW Manufacturing Corporation

$35,000.00 2009238

Wagner, John R

Powertrain Thermal Management & Integration and Control of a Hybrid Electric Vehicle Battery Pack, E-Motor Drive, and Internal Combustion Engine Multiple Loop Cooling System

**Sponsor:** University of Michigan

**Co-Inv:** Fadel, Georges M

$58,638.00 2009514

**Mechanical Engineering Total:**

$1,529,177.00

**Physics and Astronomy**

Alexov, Emil Georgiev

DelPhi: Software for Electrostatic Modeling of Biomolecules and Objects

**Sponsor:** National Institutes of Health/ DHHS

$437,203.00 2008051

Brittain, Sean D

CAREER: The Evolution of Gas in Disks - Setting the Stage for Planet Formation

**Sponsor:** NSF (National Science Foundation)

$133,368.00 2008187

Observation of OH Emission from the Transition Desk HD141569

**Sponsor:** California Institute of Technology

$15,000.00 2009041

Identification of Forming Gas Giant Planets in the Transition Object HD141569

**Sponsor:** California Institute of Technology

$13,500.00 2009355
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<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>
<td>$260,000.00</td>
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<td>Hartmann, Dieter H</td>
<td>ApJ Research Supplement 2010</td>
<td>American Astronomical Society</td>
<td>$10,000.00</td>
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<td>He, Jian</td>
<td>Fabrication of Nanostructured Rhenium Films</td>
<td>SC Universities Research and Education Foundation</td>
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<td>Ke, Pu-Chun</td>
<td>REU: Extrapolating the Concept of Protein Corona for Understanding</td>
<td>NSF (National Science Foundation)</td>
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<td>Larsen, Miguel F</td>
<td>Neutral-Ion Coupling and Wind Shear Effects in the Daytime Lower Ionosphere</td>
<td>NASA</td>
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<td>Equatorial Vortex Experiment (EVEX): A Study of the Ionospheric Plasma Circulation and the Sunset Layer from Kwajalein (Clemson CO-I Proposal)</td>
<td>NASA</td>
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<td>Investigation of Anomalous Transport in the Lower Thermosphere</td>
<td>NASA</td>
<td>$91,865.00</td>
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<td><strong>Co-Inv:</strong> Lehmacher, Gerald A</td>
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Collaborative Research: PINOT-PFISR Ion-Neutral Observations in the Thermosphere

Sponsor: NSF (National Science Foundation) $25,000.00 2009204

The Role of Field Aligned Ion-Drag in Driving Vertical Winds and Mass Density Enhancements Observed in the Cusp Region of Earth's Upper Thermosphere (Clemson co-I Proposal)

Sponsor: NASA $98,460.00 2009360

Artificial Ionospheric Plasma Density Irregularities

Sponsor: Cornell University $8,427.00 2009518

Lehmacher, Gerald A

Mesosphere-Lower Thermosphere Turbulence Experiment (MTEX) (Co-I Proposal Clemson University)

Sponsor: NASA $47,219.00 2009380

Collaborative Proposal: Jicamarca Radar Studies of Gravity Waves from D Region to Lower F Region

Sponsor: NSF (National Science Foundation) $85,001.00 2009449

Meriwether Jr., John W

CEDAR Collaborative Research: Development and Application of a Multi-Site Observing Network to Study Mid-Latitude Thermospheric Dynamics

Sponsor: NSF (National Science Foundation) $51,772.00 2008750

Fabry-Perot Studies of Equatorial Thermospheric Dynamics and Composition, Part II - Supplement

Sponsor: NSF (National Science Foundation) $36,970.00 2009202
Collaborative Research: FPI to Study Ion-neutral Coupling near the Southern Crest of the Equatorial Ionization Anomaly in the American Sector

**Sponsor:** NSF (National Science Foundation)  
$29,856.00  
2009488

CEDAR: Collaborative Research: A Focused Study of Sustained Upward Vertical Winds in the Auroral Zone

**Sponsor:** NSF (National Science Foundation)  
$16,867.00  
2009497

Meyer, Bradley S

Chemical Evolution of the Neutron-Rich Iron-Group Isotopes and Implications for the Formation of FUN CAIs

**Sponsor:** NASA  
$30,000.00  
2008021

Oberheide, Jens

Geospace Response to Lower Atmospheric Wave Variability Due to the El Nino-Southern Oscillation

**Sponsor:** NASA  
$116,102.00  
2008516

Collaborative Research: CEDAR: Global Studies of Cross-Hemispheric Coupling due to Tide-Planetary Wave Interactions

**Sponsor:** NSF (National Science Foundation)  
$49,420.00  
2008779

Analysis of Short-Term Tidal Perturbations

**Sponsor:** GATs, Inc.  
$39,187.00  
2009314

Impact of Nonmigrating Tides on the Thermospheric Energy Budget and Constituents

**Sponsor:** NSF (National Science Foundation)  
$103,118.00  
2009506

Rao, Apparao M.

Department 0978 Apparao Rao - SRR Account

**Sponsor:**  
$8,255.00  
1980650
Strengthening Superconductivity in Macro-Arrays of Nanoclusters and Nanostructures

Sponsor: Various Private Sponsors (245)

$100,000.00  2007213

Harmonic Detection of Resonance of the Study of Fluoride Attack of Surfaces & Revision 2

Sponsor: University of Texas

$36,331.00  2007790

SNM: Defect-Engineered Nanocarbons for Electrochemical Energy Storage

Sponsor: SC Universities Research and Education Foundation

Co-inv: NSF (National Science Foundation)

$1,200,000.00  2009147

Sponsor: Roberts, Mark E

Examination of Electrical Properties of Conductive Polymers and OLEDs in Weak Electrostatic Fields

Sponsor: SCUREF

$90,827.00  2009243

Sosolik, Chad E

Construction of a 12 "Cyclotron"

Sponsor: American Institute of Physics

Co-inv: Ding, Feng

$1,750.00  2009346

Multicharged Ion Promoted Desorption (MIPD) of Reaction Co-Products

Sponsor: US ARMY

Co-inv: Luo, Jian

$189,950.00  2009350

Tewari, Sumanta

Topologically Protected Quantum Information Processing in Spin-orbit Coupled Semiconductors

Sponsor: US AIR FORCE

$160,000.00  2008207
Search for Majorana Fermions in S-Wave Fermionic Superfluids

Tritt, Terry M
Nanoscale Approach to High Performance Thermoelectric Composites

Valentini, Antony
Hidden Variables in the Early Universe

Sponsor: University of Texas at Dallas
Sponsor: NanoSonic Inc.
Sponsor: Templeton (John) Foundation
Co-Inv: Barnes, Peter A.

Physics and Astronomy Total: $4,179,323.00

School of Computing
Apon, Amy W.

CI-SEEDS: Seeding the Next Generation Cyberinfrastructure Ecosystem

Sponsor: NSF (National Science Foundation)
Co-Inv: Dean, Brian Christopher
        Gemmill, Jill B

Evaluating the Effect of Cyberinfrastructure on Universities Production Process

Sponsor: NSF (National Science Foundation)
Co-Inv: Wilson, Paul Wayne

MRI: Acquisition of High Performance Computing Instrument for Collaborative Data-Enabled Science

Sponsor: NSF (National Science Foundation)

CI-Seeds: Seeding the Next Generation Cyberinfrastructure Ecosystems - REU Supplement

$73,784.00  2009358
$112,500.00  2008705
$122,718.00  2099165

$40,000.00  2008912
$600,000.00  2009076
$15,000.00  2009402
$15,000.00  2009575
Sponsor: NSF (National Science Foundation)

MRI: Acquisition of High Performance Computing Instrument for Collaborative Data-Enabled Science

Sponsor: NSF (National Science Foundation)
Co-inv: Gemmill, Jill B
       Ligon, Walter B
       Smith, Melissa Crawley
       Stuart, Steven J

Caine, Kelly E
Developing Frameworks to Address Issues in Privacy

Sponsor: Indiana University

IN Challenge Grant Supplemental (Challenge Category #4)

Sponsor: Indiana University

Dean, Brian Christopher
CAREER: Algorithmic Aspects of Ordinal Matching Problems

Sponsor: NSF (National Science Foundation)

REU Site: Data-Intensive Computing

Sponsor: NSF (National Science Foundation)

Duchowski, Andrew T
Supplement: HCC: Small: Eye Movement in Stereoscopic Displays, Implications for Visualization

Sponsor: NSF (National Science Foundation)
Co-inv: House, Donald Henry

Geist III, Robert M
GPU Virtualization in Support of the Virtual Computing Initiative

Sponsor: IBM Corporation
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<td>Gilbert, Juan E</td>
<td>Voice Control &amp; Augmented Call Center</td>
<td>BMW Manufacturing Corporation</td>
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<td>Career: Supporting Patterns for Embedded Network Systems</td>
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<td>Hodges, Larry F</td>
<td>Virtual Assistants for the Elderly &amp; GRFP Lauren Cairco</td>
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<td>Fellowship for Toni Bloodworth: Virtual Patient Training System</td>
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CGV: Large: Collaborative Research: Modelling, Display, and Understanding Uncertainty in Simulations for Policy Decision Making

Sponsor: NSF (National Science Foundation) $321,953.00 2009132

Luo, Feng
Screening and Cloning of Resistance Related Genes by RNA-Seq in Huanglongbing Resistant and Susceptible Citrus Breeding Lines

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207) $77,820.00 2009104

Sitaraman, Murali
SHF: Medium: Collaborative Research: Specification and Mathematics Engineering for the Verified Software End-Game

Sponsor: NSF (National Science Foundation) $16,000.00 2009040

Sorber, Jacob M
Conservation Corridors for Desert Tortoises

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR) $49,995.00 2009307

Woodard, Damon L
Automatic Visual Inspector: Phase I

Sponsor: BMW Manufacturing Corporation $64,977.00 2009160
Co-Inv: Birchfield, Stanley T

School of Computing Total: $3,906,772.00

COLLEGE OF ENGINEERING & SCIENCE Total: $41,123,732.00

COLLEGE OF HEALTH, EDUC & HUMAN DEVELOPMENT
Clinical Ed/Pract & Med Surv Pro
Watt, Paula J
Medicare Beneficiaries
Sponsor: Thomas Jefferson University $1,125.00 2009455
Access to Care 2013
Sponsor: Blue Cross and Blue Shield of South Carolina $9,000.00 2009537
Improving Cancer Screening for the Medically
Under-served in the Upstate
Sponsor: South Carolina Cancer Alliance $1,628.00 2009554
Clinical Ed/Pract & Med Surv Pro Total: $11,753.00

Dean of Health, Educ, Human Dev
Havice, William L
NASA Astronaut Col Patrick Forrester Serving
as an Adjunct Professor to Provide Vision and
Leadership in STEM Education
Sponsor: NASA $205,260.00 GIK1302
Headley, Kathy Neal
NCATE Visit Grants
Sponsor: SC Dept of Education $1,050.00 2009332
Dean of Health, Educ, Human Dev Total: $206,310.00

Inst on Famly & Nhd Life (IFNL)
Limber, Susan P.
Consultation with PCA America to Develop
Bullying Center
Sponsor: Prevent Child Abuse America $15,000.00 2009233
Bullying Prevention Campaign: Phase V Option
Year 1

Sponsor: Widmeyer Communications $70,000.00 2009264
Co-Inv: Ott, Joyce A

McDonell, James R.
Leadership of the Center for Community Services $38,899.00 2007331

Sponsor: Center for Community Services

Center for Adolescent Research in Schools $123,202.00 2008522

Sponsor: University of South Carolina

A Multi-Level, Cohort-Sequential Study of Rural Adolescent Dating Violence Victimization and Perpetration $447,857.00 2008594

Sponsor: National Institutes of Health/DHHS
Co-Inv: Gerard, Patrick D

Drug Free Chesterfield Evaluation and Technical Assistance YR 8 $31,176.00 2095422

Sponsor: Chesterfield County

Small, Mark A
Clemson University Sustainable Community Project $120,000.00 2008459

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE) (207)

Taylor, David Read
Community Transformation Grant $59,998.00 2009489

Sponsor: Live Well Greenville

Inst on Fmly & Nhd Life (IFNL) Total: $906,132.00

Leadership, Counsl Ed, Hum & Org Dev
First, Patricia Flanagan
Opening Event UCEA Center for the Leadership in Law and Education at Clemson University

Sponsor: University of Virginia

Leadership, Counsel Ed, Hum & Org Dev Total: $5,000.00

National Dropout Prevention Ct
Drew Jr, Samuel F
A Longitudinal Study of the SC Personal Pathways to Success Initiative

Sponsor: University of Louisville
Co-Inv: Mobley, F Catherine
         Sharp, Julia Lynn

Reynolds, Elizabeth Parrott
National Dropout Prevention Center for Students with Disabilities

Sponsor: US DEPARTMENT OF EDUCATION
Co-Inv: Bost, Loujeania Williams
         Smith, Sandra C

National Dropout Prevention Ct Total: $699,805.00

Parks Recreation & Tourism Mgt
Anderson, Denise Marie
Parks, Recreation and Tourism - SRIR Account

Sponsor: Various Private Sponsors (245)

Arthur-Banning, Skye Gerald
Small Restricted Receipts

Sponsor: Various Private Sponsors (245)

Backman, Kenneth F

Parks Recreation & Tourism Mgt Total: $709,750.00
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<td>National Visitors Monitoring</td>
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<td>Aiken County Parks, Recreation, and Tourism</td>
<td>Strategic Plan</td>
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<td>Aiken County</td>
<td>Examing Capacity for a Cooperative Seafood Tourism Trail as a Value-Added Marine Resource-Based Recreation and Tourism Product on the South Carolina Coast</td>
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<td>SC Sea Grant Consortium</td>
<td>Understanding Demand for Value-added products and services associated with for-hire boat trips on the South Carolina Coast</td>
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<td>Norman, William C</td>
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Paris, Recreation and Tourism Research - SRR Account
Sponsor: Various Private Sponsors (245) $4,000.00 1980459

Perceptions of Marine Aquaculture in Coastal Tourist Destinations in the US Southeastern United States Coast
Sponsor: SC Sea Grant Consortium $60,948.00 2099277
Co-Inv: Jodice, Laura Williams

Schmalz, Dorothy L
Development of Healthy Parks-Healthy People Strategic Action Plan for Hot Springs National Park
Sponsor: National Park Service/Department of the Interior $57,540.00 2009159
Co-Inv: Griffin, Sarah F
Halio, Jeffrey Charles

Wright, Brett A
Needs Assessment for Visitor and Resource Protection and three Specialty Career Fields in collaboration of the CESU work
Sponsor: USDI (US DEPARTMENT OF THE INTERIOR) $92,000.00 2009149

Coastal Marine Recreation and Tourism Outreach Partnership: SCSGC/Clemson
Sponsor: SC Sea Grant Consortium $44,961.00 2099353

The Good Lighting Fellowship
Sponsor: Various Private Sponsors (245) $50,000.00 2301383

Parks Recreation & Tourism Mgt Total: $508,671.00

Public Health Sciences
Dye, Cheryl Jo
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<td>Investigation of Effective Training of &quot;promotoras&quot; in Oral Rehydration Therapy</td>
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<td>Craig, Janet Baker</td>
<td>Assessing the Frequency and Costs Associated with Emergency Department Transfers Among South Carolina Nursing Home Residents</td>
<td>$10,882.00</td>
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<td>Reading Recovery Training Center for South Carolina</td>
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<td>Reading Recovery: Scaling up What Works</td>
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<td>Cook, Michelle Patrick</td>
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Upstate Writing Project SC - 2012-2013 i3
College-Ready Writers Program Study and Planning Grant

Sponsor: National Writing Project Corporation
$35,000.00 2009393

Upstate Writing Project SC - 2012-1013 i3
College-Ready Writers Program: Study and Planning Grant

Sponsor: National Writing Project Corporation
$35,000.00 2009394

Upstate Writing Project SC - 2012-2013 i3
College-Ready Writers Program: Study and Planning Grant

Sponsor: National Writing Project Corporation
$35,000.00 2009435

Linder,Sandra Mammano
Building Environments for Early Mathematics Success

Sponsor: PNC Foundation
$42,750.00 2009527

Marshall,Jeff C
Creating Effective, Sustainable Inquiry-Based Instruction in Middle School Science Classrooms

Sponsor: NSF (National Science Foundation)
$114,126.00 2007749

Center of Excellence for Inquiry in Mathematics and Science

Sponsor: SC Commission on Higher Education
$112,500.00 2099017

Co-Inv:
Horton,Robert M
Padilla,Michael James
Tyminski,Andrew Michael

Moving from standards to practice leading tomorrow's mathematics and science education in SC

Sponsor: SC Commission on Higher Education
$16,100.00 2099269

Rosenblith,Suzanne N
CU AP Summer Institute 2013 in Math/Science/ELA
Sponsor: SC Dept of Education $62,787.00 2009408

CU AP Summer Institute 2013 in Art History
Sponsor: SC Dept of Education $13,500.00 2009409

CU AP Summer Institute 2013 in Social Sciences and Language
Sponsor: SC Dept of Education $80,750.00 2009410

Stecker, Pamela M
Project CREATE: Center for ReEducation and Advancement of Teachers in Special Education
Sponsor: SC Dept of Education $15,349.00 2009459

Stegelin, Dolores A
Clemson University Barnwell County Early Childhood Collaborative Project
Sponsor: Various Private Sponsors $16,700.00 2006056

Ideal Systems-Ready Community Gap Analysis-Refocused GAP Analysis for the Institute for Child Success
Sponsor: Institute for Child Success $40,000.00 2009145
Co-Inv: Rembert, Kellye S
Truong, Khoa Dang

Teacher Education Total: $1,584,959.00

COLLEGE OF HEALTH, EDUC & HUMAN DEVELOPMENT Total: $4,955,945.00

OTHER NON-COLLEGE RELATED DEPARTMENTS
Fire & Emergency Medical Serv
Fisher, Lynn Dale
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**Fire & Emergency Medical Serv Total:**

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| Link Jr, Johnson W                             |           |         |
| Critical Infrastructure Equipment Enhancement  |           |         |
| **Sponsor:** SC Law Enforcement Division       |           |         |
|                                                | $30,273.00  | 2009593 |

**Law Enforcement & Safety Total:**

$130,273.00

| New Student & Family Programs                 |           |         |
| Kniess, Dena R                                |           |         |
| Minority Students' Perception of their Second-|           |         |
| Year in College: A Phenomenological Study     |           |         |
| **Sponsor:** NASPA-Student Affairs Admn in    |           |         |
| Higher Ed                                     |           |         |
|                                                | $500.00    | 2009406 |

**New Student & Family Programs Total:**

$500.00

| Office of Undergrad Stud                      |           |         |
| Speziaile, Barbara J                          |           |         |
| Inquiry Based Learning: A companion Course    |           |         |
| for the Biology-End-of-Course Test            |           |         |
| **Sponsor:** SC Dept of Education             |           |         |
| Co-Inv: Allard, Cora M                        |           |         |
| Cook, Michael Patrick                         |           |         |
| **Sponsor:** SC Dept of Education             |           |         |
|                                                | $114,516.00 | 2009381 |

**Office of Undergrad Stud Total:**

$114,516.00
### Office of Undergrad Stud Total:

$114,516.00

### Univ Fac:Custodial-Recycle Svs

**Vandeventer, David R**  
Game Day Recycling Program  
**Sponsor:** Alcoa Foundation  
$60,000.00  
2009244

### Univ Fac:Custodial-Recycle Svs Total:

$60,000.00

### University Libraries

**Vinson, Christopher Glen**  
Digital Public Library of America Digital Hubs Pilot  
**Sponsor:** Open Knowledge Commons  
$100,000.00  
2009339

Digital Public Library of America Digital Hubs Pilot  
**Sponsor:** Open Knowledge Commons  
$50,000.00  
2009463

### University Libraries Total:

$150,000.00

### OTHER NON-COLLEGE RELATED DEPARTMENTS Total:

$462,789.00

### PUBLIC SERVICE ACTIVITIES

#### Agricultural Research

**Askew, George R**  
NPS Southeast Region Marine Science Support Center  
**Sponsor:** USDI (US DEPARTMENT OF THE INTERIOR)  
$2,937.00  
2009198

**Meadows, Steven E**  
County Extension Agent-4-H  
$29,500.00  
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County Extension Agent - 4-H
Sponsor: Union County, SC
$24,000.00 2009279

County Extension Agent 4-H
Sponsor: Clarendon County
$12,750.00 2009555

Ray, Christopher L
Determination of Best Agronomic Practices for High Yielding Sorghum Production in the Mid-Atlantic Region
Sponsor: United Sorghum Checkoff Program
Co-inv: Gunter II, H David
Kresovich, Stephen
$58,800.00 2009453

Shipe, Emerson R
Evaluation of Elite SC Soybean Breeding Lines in 2013
Sponsor: SC Soybean Board
Co-inv: Mueller, John D
$12,806.00 2009445

Agricultural Research Total:
$733,566.00

Berkeley
Williford, Gayle G
Berkeley, Charleston and Dorchester 4-H Programs
Sponsor: Exchange Club of Charleston, SC
$18,600.00 2009486

Berkeley Total:
$18,600.00

CU Restoration Inst. (CURI)
Rigas, Nikolaos
Clemson University 15 Megawatt Hardware-In-the-Loop (HIL) Grid Simulator
$2,250,000.00 4030002
Sponsor: DOE (UNITED STATES DEPARTMENT OF ENERGY)
Co-inv: Collins Jr, Edward R

CU Restoration Inst. (CURI) Total: $2,250,000.00

Center for Applied Ecology

Eidson, Gene W

Hydrological Evaluation of the Sand River Headwaters Stormwater Infrastructure

Sponsor: City of Aiken
Co-inv: Hallstrom, Jason O
Hitchcock, Daniel R
Post, Christopher J.
Putman, Bradley J
Sawyer, Calvin B

Center for Applied Ecology Total: $367,437.00

Chester

Currence, Robin L

21st Century Learning Centers 4-H Chester Park ‘12-‘13

Sponsor: Communities in Schools

4-H Health Rocks! Program

Sponsor: Chester Healthcare Foundation

Chester County 4-H and EFNEP Programs

Sponsor: Lutz Foundation, Clarence H and Anna Elizabeth

Mid Atlantic Feed Grains Project

Sponsor: Virginia Polytechnic Institute and State University
Chester Total: $53,299.00

Coastal Research & Educ Center

Ward, Brian K
SSR

Sponsor: Various Private Sponsors (245) $5,000.00 1980583
Creating Profitable Strategies for Transitional and Organic Growers for Multi-Vegetable Cropping Through Unique Cover Cropping, Plasticulture and Alternative Fertilizer Technology

Sponsor: SC Dept of Agriculture $15,308.00 2009272
Improving Soil Quality to Increase Yield and Reduce Diseases in Organic Rice Production

Sponsor: Texas A&M University $16,500.00 2009315

Coastal Research & Educ Center Total: $36,808.00

Colleton

Marvin, Alta Mae

Sponsor: Eat Smart Move More SC $53,720.00 2007740
Reversing the Epidemic of Childhood Obesity through Demonstration of a Community Based Obesity Prevention Model that Works

Colleton Total: $53,720.00

Conservation Center

Nasanen, Llisa Maria Elina

Sponsor: Fort Sumter and Fort Moultrie - CESU $163,000.00 2009142
Treatment of Museum Collection Objects from Fort Sumter and Fort Moultrie - CESU
Rennison, Benjamin
Digital Preservation and Existing Conditions
Inventory Report of Akers Mill (CESU)

Sponsor: National Park Service/Department of the Interior
Co-inv: Crette, Stephanie Aline
        Drews, Michael James
        Gonzalez-Pereyra, Nestor Gabriel

$40,000.00  2009559

Conservation Center Total:
$203,000.00

Economic Development
Peters, Thomas T
Inquiring Minds: Reading to Learn and Innovate in Mathematics and Science

Sponsor: Boeing

$250,000.00  2098784

STEM Leadership for Inclusion (ISTEM)

Sponsor: Appalachian Regional Commission

$35,992.00  2099188

Economic Development Total:
$285,992.00

Edisto Research & Educ Center
Gunter II, H. David
Effect of Twin Row Cropping Systems on the Growth, Development, and Yield of Soybeans in South Carolina

Sponsor: SC Soybean Board

$5,000.00  2009438

Using STS Technology to Control Glyphosate-Resistant Palmer Amaranth in Soybean Production Systems

Sponsor: SC Soybean Board

$9,000.00  2009441
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<td>SC Soybean Board</td>
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<td>Syngenta Seeds, Inc.</td>
<td>$1,134.00</td>
<td>Miller, Gilbert A 2013 Clemson Triploid Watermelon Cultivar Trial Protocol - Service Order No. 7</td>
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<td>SC Peanut Board</td>
<td>$90,660.00</td>
<td>Monfort, Walter Scott Sustainable Peanut Production in South Carolina</td>
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<td>Chapin, Jay Willard</td>
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<td>National Peanut Board</td>
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<td>Evaluation and Selection of Virginia and Runner Type Peanut Varieties in Response to Agronomic Practices and Environmental Conditions Unique to South Carolina</td>
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<td>$5,940.00</td>
<td>Mueller, John D Seed Treatment Nematode Management in Cotton</td>
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<td>SC Cotton Board</td>
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<td>Management of Target Leaf Spot of Cotton</td>
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<td>Croft, Jonathan Kenneth</td>
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<td>Davis Jr, Charles William Varn Jr, Joe E</td>
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<td>Seed Treatment Nematode Management in Cotton - Service Order No. 12</td>
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<td>Seed Treatment Nematode Management in Soybean - Service Order No. 14</td>
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<td>Scheduling Irrigation for Cotton Irrigated by Subsurface Drip Irrigation</td>
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<td>Development of Online Calculator for Cotton Water Use and Irrigation Requirement for South Carolina</td>
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<td>WUE &amp; Irrigation Response of FACT Cotton Varieties - Mid-South/SE - Service Order No. 3</td>
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<td>Demonstration of Innovative Water Conservation Technologies to Enhance Resilience to Drought While Optimizing Farm Profits</td>
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Edisto Research & Educ Center Total: $648,253.00

Fairfield

Walker, Marlyne R
Make Room for Mushrooms: Eat Right, Your Way, Every Day
Sponsor: Mushroom Council
$1,000.00 2009295

Fairfield Total: $1,000.00

Field Operations

Burns, Matthew G
2013 Clemson Bull Test
Sponsor: SC Cattlemen's Association
$50,000.00 2009340

Field Operations Total: $50,000.00

Greenwood

Campbell, Kevin S
2012 Clemson Bull Test
Sponsor: SC Cattlemen's Association
$50,000.00 2008688

2012 Clemson Forage Bull Test
Sponsor: SC Cattlemen's Association
$80,000.00 2008689

Greenwood Total: $130,000.00

Horry

Lanford, Blake Madison
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<td>SC Value Added Producers Guide</td>
<td>SC Dept of Agriculture</td>
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<td>A Strategic Plan for Agribusiness Development in Horry County</td>
<td>Myrtle Beach Regional Economic Development</td>
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<td>Vaidosta RO Wholesale Success: Managing Wholesale Production, Marketing, Financial and Human Risks for Alabama and South Carolina Specialty Crop Farmers</td>
<td>FamilyFarmed.org</td>
<td>$5,000.00</td>
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<td>University of Georgia</td>
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Lexington

Smith, John P
Development of an East Coast Broccoli Industry

Sponsor: Cornell University

Lexington Total: $24,191.00

Livestock & Poultry Health

Martin, Michael Kent
CEAH - Disease Spread Modeling Data
Deidentification Support

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

NAHLN - LIMS Integration Consulting

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

Parr, Boyd Hobson
Animal Disease Traceability

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

Livestock & Poultry Health Total: $188,118.00

Pee Dee Research & Educ Center

Fortnum, Bruce A
Tobacco Management Studies

Sponsor: Philip Morris International

Co-Inv: Goodwin III, Dewitt Talmadge

Acquisition of Goods and Services, Research Support Agreement #58-6657-1-901

Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

$24,678.00  2008752
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<td>Seed Treatment Nematode Management in Soybean</td>
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<td>Acquisition of Goods and Services 58-6657-2-400</td>
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<td>Use of Bacteriophage for Control of Bacterial Wilt in Mechanically Harvested Tobacco</td>
<td>Philip Morris International</td>
<td>$48,868.00</td>
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<td>Extension Educational Programs for Tobacco Quality Enhancement and Curing Efficiency Improvements</td>
<td>Philip Morris International</td>
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<td>Co-Inv: Gooden III, Dewitt Talmadge</td>
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<td>Acquisition of Goods and Services 58-6657-3-004</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
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Evaluation of Growth Regulators for Suppression of Axillary Shoot Growth and Bacterial Wilt in Mechanically Topped and Harvested Tobacco  

**Sponsor:** SC Tobacco Board  
**Co-Iv:** Peterson, Paul D  
$10,536.00  
2009385

Use of Bacteriophage for Control of Bacterial Wilt in Mechanically Harvested Tobacco  

**Sponsor:** SC Tobacco Board  
**Co-Iv:** Peterson, Paul D  
$3,000.00  
2009386

Funds for Tobacco Education  

**Sponsor:** SC Tobacco Board  
**Co-Iv:** Gooden III, Dewitt Talmadge  
$2,500.00  
2009387

Tobacco Variety and Growth Regulator Evaluation  

**Sponsor:** SC Tobacco Board  
**Co-Iv:** Gooden III, Dewitt Talmadge  
$10,000.00  
2009389

**Pee Dee Research & Educ Center Total:**  
$393,466.00

**Pesticide Regulation**  
Weyman Jr, Michael D  

2011 - 2013 Enforcement Pesticide Programs Cooperative Agreement  

**Sponsor:** EPA (Environmental Protection Agency)  
$90,852.00  
2008254

South Carolina School District Facilities Assessment and Improvement  

**Sponsor:** EPA (Environmental Protection Agency)  
$118,981.00  
2008255

2011 - 2013 Certification and Training Pesticide Programs Cooperative Agreement  

**Sponsor:** EPA (Environmental Protection Agency)  
$57,234.00  
2098253
Pesticide Regulation Total: $267,067.00

Pickens

Callahan, Brian J
County Extension Agent-Community Pride
Sponsor: Charleston County $15,000.00 2007693

Sutter, Janine H.
Run 4(-H) Fun
Sponsor: Youth Service America (YSA) $1,000.00 2009425

4-H Healthy Lifestyles (WMT 3191 Application)
Sponsor: Wal-Mart Foundation (247) $500.00 2009589

Pickens Total: $16,500.00

Plant Industry

Harden, Christel F
Southern Plant Diagnostics Network (SPDN)
Sponsor: University of Florida $22,000.00 2008977

Cogongrass Detection, Eradication and Education and Forest Pests Detection and Education Project
Co-Inv: Williamson, Margaret A
Sponsor: SC Forestry Commission $53,700.00 2009083

Slow Sand Filtration System for P. ramorum Phase 2 (additional information)
Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE) (207) $9,900.00 2098841
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<td>Phytophthora ramorum Farm Bill National Nursery Survey</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
<td>$25,000.00</td>
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<td>Farm Bill Junior InvasiveInspectors</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
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<td>Farm Bill Honey Bee Survey</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
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<td>Imported Fire Ant</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
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<td>CAPS - Tier I and Pest of National Concern</td>
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<td>Witchweed</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
<td>$13,101.00</td>
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<td>Emerald Ash Borer National Survey</td>
<td>USDA (UNITED STATES DEPT OF AGRICULTURE)(207)</td>
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<td>Farm Bill - Thousand Cankers Survey</td>
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<td>Slow Sand Filtration System for P. Ramorum Phase 3</td>
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Sponsor: USDA (UNITED STATES DEPT OF AGRICULTURE)(207)

Plant Industry Total: $459,474.00

Sandhill Research & Educ Centr
Horton, Paul Mackey
Leadership in South Carolina

Sponsor: Leadership South Carolina

Sandhill Research & Educ Centr Total: $149,819.00

Strom Thurmond Institute
Allen, Jeffery S
Identifying and Evaluating Best Practices for the Adaptive Management of Water Resources

Sponsor: University of Minnesota

Program Management of the South Carolina Water Resources Center

Sponsor: USDI (US DEPARTMENT OF THE INTERIOR)
Co-Iv: Kaye, Nigel Gregory
Saylor, John R

Strom Thurmond Institute Total: $75,464.00

Sumter
McNulty, Amanda C
Keep America Beautiful Activities, Sumter, SC

Sponsor: Palmetto Pride

Sumter Total: $6,750.00
### Sustainable Mobility Institute (SMI)

- Taiber, Joachim
  - **Wireless Power Transfer (WPT) and Charging of Plug-In Electric Vehicles**
    - Sponsor: Oak Ridge National Laboratory
    - Co-inv: Chowdhury, Mashrur A, Hubing, Todd H
    - Cost: $362,193.00
    - Code: 2009303

- **Energy Control Strategy for Driver Eco-Driving Enhancement, Feedback and Driving Style Assessment**
  - Sponsor: Proterra
  - Co-inv: Pis, Pierluigi
  - Cost: $74,378.00
  - Code: 2009581

**Sustainable Mobility Institute (SMI) Total:**

- **$436,571.00**

### T Ed Garrison Arena

- Williams, Charles
  - **Advertising/Promotions for Garrison Arena**
    - Sponsor: City of Clemson
    - Cost: $6,000.00
    - Code: 2009216

- **Advertising/Promotions for Garrison Arena**
  - Sponsor: Anderson County
  - Cost: $9,000.00
  - Code: 2009280

**T Ed Garrison Arena Total:**

- **$15,000.00**

### VP Econ Dev & PSA

- Kelly, John W
  - **The CURI GEC: Building South Carolina’s Economy Through Private-Public Collaboration**
    - Sponsor: USDC (UNITED STATES DEPARTMENT OF COMMERCE)
    - Cost: $8,000,000.00
    - Code: CURI613
Kelly, Karl Bruce  
Unspecified Title  

**Sponsor:** Unspecified Sponsor  
**Co-inv:** Harcum, Sarah W  
Walker, Terry H  

**VP Econ Dev & PSA Total:**  
$113,723.00  
2009245

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York  
Boyles, Benjamin L  
2013 Ag + Art Tour  

**Sponsor:** York County  

**York Total:**  
$5,940.00  
2099392

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Youth Learning Institute  
Ardern, Pamela B  
South Carolina 2012 Operation Military Kids  

**Sponsor:** Kansas State University  

$43,788.00  
2008665

South Carolina OMK Local/Regional Support Network - Aiken County  

**Sponsor:** Kansas State University  
**Co-inv:** Lone, Sharon A  

$10,000.00  
2008717

South Carolina OMK Local/Regional Support Network  

**Sponsor:** Kansas State University  
**Co-inv:** Harris, Alma L  

$10,000.00  
2008718

SC Tech Wizards 2012  

**Sponsor:** National 4H Council  

$20,051.00  
2008849

SC 4-H Rocks!  

**Sponsor:**  

$81,500.00  
2009330
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<td>Kansas State University</td>
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<td>US ARMY</td>
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<td>Oklahoma State University</td>
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<td>Purdue University</td>
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<td>Linke, Gregory H</td>
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<td>Air National Guard Day Camps</td>
<td>Kansas State University</td>
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<td>SC Dept of Education</td>
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<td>21st CCLC for Charleston County Schools</td>
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<td>$195,950.00</td>
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<td>(A.I.M. - Achieve, Inspire, Motivate)</td>
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<td>SNAP-ED for Clemson University</td>
<td>SC Dept of Social Services</td>
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<td>YLI STEM Program</td>
<td>Appalachian Regional Commission</td>
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<td>Frager, Robert D</td>
<td>SC Dept of Social Services</td>
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<td>Cole, Christine W</td>
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<td>Garment Modification and Support</td>
<td>Various Federal Agencies</td>
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<td>Chemical-Biological Forensic Evidence</td>
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<td>Applied Research Associates, Inc.</td>
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<td>SC Manufacturing Extension Partnership</td>
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**Clemson Apparel Research Total:**

$676,012.00

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**Provost & VP for Ac Aff**

Aziz, Nadim M

DHEC/Clemson Asphalt Rubber Technology Service Grant

Sponsor: SC Dept of Health & Env Control (235)  
Co-Inv: Rangaraju, Prasada Rao

$300,000.00  2007337

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**Provost & VP for Ac Aff Total:**

$300,000.00

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**Research/Electron Micro Facil**

Saraf, Laxmikant Vyankatesh

AMRL Imaging Instrument Access

Sponsor: SCUREF

$7,680.00  2009316

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**Research/Electron Micro Facil Total:**

$7,680.00

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**VP for Research**

Dooley, R Larry

Endowed Chair in Cardiovascular Health

Sponsor: Health Sciences South Carolina
Co-Inv: Sonnenfeld, Gerald

IDEA Networks of Biomedical Research Excellence (INBRE)

Sponsor: University of South Carolina
Co-Inv: Alexis, Frank  
Dean, Delphine  
Laberge, Martine  
Vertegel, Alexey Alexandrovich

2008 Research Infrastructure Improvement Grant (RII)

$150,000.00  2009309
Summary of Proposal Submissions
Does not include small restricted receipts and other transactions initiated as an *award* and not considered a competitive proposal.