

# SmartState <br> SC Centers of Economic Excellence 

January 9, 2014

The Honorable Nikki R. Haley, Governor<br>The Honorable Richard Eckstrom, Comptroller General<br>The Honorable Curtis Loftis, Treasurer<br>The Honorable Hugh K. Leatherman, Sr., Chairman, Senate Finance<br>The Honorable W. Brian White, Chairman, House Ways \& Means Committee

The Honorable J ohn E. Courson, President Pro Tempore, and Members of the S.C. Senate
The Honorable Robert W. Harrell, J r., Speaker of the House, and Members of the S.C House of Representatives
Dear Members of the South Carolina General Assembly and State Budget and Control Board:
I am pleased to inform you that the South Carolina Centers of Economic Excellence Review Board has approved the SmartState Program 2012-2013 Annual Report to the South Carolina General Assembly and the South Carolina Budget \& Control Board and the 2012-2013 SmartState Program Audit. I am equally pleased to report that the SmartState Program received another unqualified audit with no material findings.

Both documents highlight the tremendous success of the SmartState Program. By the end of fiscal year 2013, the SmartState Review Board had approved 51 research centers and 89 SmartState Endowed Chair positions, of which 44 appointments have been made and announced. As envisioned by the General Assembly, the SmartState Program is of great benefit to the state. The program is responsible for more than $\$ 1.4$ billion in non-state investment in the South Carolina economy-a 7:1 return on the state's $\$ 180$ million investment from 2003 to 2008 and has also led to the creation of more than 8,000 jobs, many of which are high-paying, knowledge-based economy positions.

The report is being transmitted to the members of the Budget and Control Board, and by statute, an electronic version of the SmartState Program 2012-2013 Annual Report and Program Audit is being made available to members of the General Assembly through the Legislative Services Agency. The annual report, along with other program information, is also available at www.smartstatesc.org. Should you desire a hardcopy annual report, please contact Dr. Argentini Anderson at the South Carolina Commission on Higher Education at aanderson@che.sc.gov or 803.737.2276.

The SmartState Review Board trusts the enclosed program reports will be helpful to you in better understanding this important South Carolina program and looks forward to working with you in the coming year and as the future of the program is considered. We greatly appreciate the work you accomplish on behalf of higher education and academic research and for the betterment of South Carolina.

## Sincerely,



Regan Voit
Chair, SmartState Review Board
cc: Ms. Marcia Adams, Executive Director, S.C. Budget and Control Board Members, SmartState Review Board
Dr. Richard Sutton, Executive Director, S. C. Commission on Higher Education

# SmartState 

 SC Centers of Economic Excellence 2012-2013 ANNUAL REPORT
## GLCBAL POSITIONING

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## MISSION

## GLCBAL

 POSITIONINGThe South Carolina SmartState ${ }^{\circledR}$ Program serves the public interest by creating incentives for the state's research universities, in cooperation with other institutions of higher education in the state, to raise capital from nonstate sources to fund endowments for specialized research professorships. These professorships in turn serve as the nucleus for unique, university-based research centers which cultivate critical, public-private industrial partnerships, expand the state's knowledge base, create well-paying jobs, enhance economic opportunities, and improve the quality of life for the people of South Carolina.

## INTRODUCTION BY REGAN VOIT. CHAIR

The SmartState Program does not receive taxpayer dollars to fund economic development-related initiatives to benefit the state; it is funded through revenue generated by the South Carolina Education Lottery, which is then matched dollar-for-dollar by non-state businesses and foundations.
hen the SmartState Program was established by the South Carolina General Assembly in 2002, there were high hopes that this visionary program could propel the state's economy into a more prosperous future. The SmartState Program was designed as a fire starter, bringing our research universities together with businesses in search of innovation, collaboration, and talented, well-prepared employees.

Little more than a decade later, the SmartState Program has lived up to its promise. The program has attracted more than $\$ 1.4$ billion in investments in our state from businesses and foundations resulting from the $\$ 180$ million of non-tax revenue generated from the State Education Lottery. That investment is responsible for creating more than 8,000 jobs, and continues to attract a who's who of corporate partners such as BMW, Boeing, GM, SCANA, Fluor, and many more eager to pursue joint research, hire our university graduates and create economic opportunities together.

The theme of this annual report is Global Position-
ing, and that is exactly what the SmartState Program is achieving for our state. South Carolina is clearly positioning itself as a global leader in the automotive, aviation, healthcare, and energy industries. The SmartState Program is an important impetus for collaboration and investment. Consider the following:

- MUSC's SmartState Center for Clinical Effectiveness and Patient Safety has succeeded in redefining how healthcare professionals are trained in South Carolina. Instead of practicing on real patients, medical and nursing students learn on high-tech patient simulators. With the help of this Center, Midlands Technical College recently secured a $\$ 25$ million federal grant to be used to train even more students for good-paying jobs using simulators.
- CU-ICAR, Clemson's automotive research campus, counts BMW, Ford, GM, Mazda and others among its corporate partners. In 2013, automotive compa nies sponsored 46 percent of its research Some 93
 programs are employed in the auto industry, 26 percent in South Carolina
The University of South Carolina is leveraging its intellectual and physical assets in nanotechnology, engineering, and physics to help develop next generation airliners. Aviation is a critical industry for South Carolina and the world; Boeing is involved in USC's efforts.
- Energy generation, storage, distribution, and security are global issues. Clemson is establishing a $\$ 150$ million energy research and commercial testing campus in North Charleston to address these very concerns. The potential for attracting industry and creating jobs in South Carolina's energy sector is huge. Already, interest is high; Duke Energy, GE Energy, Intertech, Santee Cooper, and SCANA are all partners.
In the past 10 years, we have implemented well thought out legislation that proved to be extremely successful in creating new high-paying positions in South Carolina. Going forward, we have identified ways to improve the program to make it even more effective for the next decade. South Carolina's SmartState Program has made our state a leader in science and technology development. As our legislative leaders implement improvements in the program, our leadership position will continue around the world.


## REVIEW BOARD

The SmartState Review Board consists of eleven members who serve three-year terms. Three are appointed 1 by the Governor, three by the President Pro Tempore of the State Senate, three by the Speaker of the House of Representatives, one by the Senate Finance Committee, and one by the Chairman of the House Ways and Means Committee. The Review Board oversees operations of the SmartState Program. The presidents of the three research universities serve as ex-officio, non-voting board members.

J. Lyles Glenn


Robert W. Pearce, Jr.


Appointed by Speaker of
the House

Melvin Williams, Vice Chair


Lisa Main


Patrick W. Turner


Michael Couick


Keith Munson, Secretary


Patricia E. Wilson


## SOUTH CAROLINA'S SENIOR RESEARCH UNIVERSITIES


${ }^{1}$ The SmartState Program has been a game-changer. It was conceived by people in leadership positions who actually understood the dollars and cents value of making long-term investments in higher education and research to support econom ic growth. The genius of it is the private sector match requirement. For example, there would be no CUICAR (Clemson International Center for Automotive Research) without the Endowed Chairs funded jointly by SmartState and BMW (two chairs), Michelin, and Timken. With these chairs, Clemson has recruited world-class faculty to diveinod world class Ca tion and support a growing auto tive and transportation sector,"

\author{

- Jim Barker, FAIA President
}

(S During my 13 year tenure as president of MUSC, no state initiative contributed as much the advancement of MUSC a an providing the resources to proviaing the resources to , we were able to build nationally prominent programs in drug discovery, regenerative medicine, biomedical imaging, and a number of other areas. Equally important, hese new recruits are attracting considerable high tech economic activity in the state through the reation of start-up companies nd partnerships with existing and partnerships with existing will pay dividends for years to come.

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${ }^{1}$ Since its creation, the SmartState Program has attracted more than $\$ 1.4$ billion in outside investment to South Carolina and created more than 8,000 new, high-paying jobs in businesses large and small. In areas as diverse as nuclear energy, advanced materials, tourism and aerospace, the SmartState Program leverages USC's research expertise to directly benefit the state's economy. For the more than 40 companies and non-profits that have invested at least $\$ 500,000$ in the program-including the Fluor Corporation and The Duke Endowment-SmartState is a vital Eipeline to pipeline to innova

Harris Pastides, Ph.D.
President
University of South Carolina is avitur student-centered community that thives on leadership, collaboration, and a winning spir the y's top-tier research universities, Clemson has combined the scientific and technological horsepower teny ras $\# 1$ by U.S. News \& World Report. USC is one of only 63 public universities listed by the Carnegie Foundation in the highest tier of research institutions in the United States.

## $\underset{\text { CLEMSON }}{\text { CLIVERITV}}$

The Smart Grid Technology Center is the most comprehensive approach to transforming the energy grid in America. The potential for attracting industry and creating jobs in South Carolina's energy sector is huge."

## $\longrightarrow$

DARRENDAWSON, Ph.D. smartstate center for SMART GRIDTECHNOLOGY


## SMART GRID TECHNOLOGY

America's electric grid was hailed as the greatest engineering achievement of the 20th century. Today, the grid - and others like it around the world is on the verge of a renaissance.

- xploding energy demands, the rise of sustainable - and alternative energy production, rapidly evolving information technology and demand for data, and the necessity of avoiding and circumventing outages and disruptions point to an unequivocal need for a major transformation of a system vital to society and the global economy.

This summer, the SmartState Program approved Clemson University's new Smart Grid Technology Cen ter. The goal is to leverage the state's strong presenc in the energy industry and Clemson's unique strength in engineering, materials science, transportation, and entrepreneurship thus creating economic development opportunities and jobs for the state.

Housed at a new $\$ 150$ million energy campus in North Charleston, the Center will emphasize smart grid and clean energy technology (wind and solar) along with energy storage and conversion. The centerpiece of the campus is a $\$ 100$ million wind turbine test facility, which will provide commercial testing to companies like GE Energy. Smart Grid research will focus on merging energy and information technologies to create
highly robust 21st century smart grid that is more re silient, reliable, flexible, and interactive with end users oo optimize energy supply, use, and security. A Smart Grid Interface System will allow real time simulations with real hardware

Though in its infancy, the Smart Grid Technolgy Center has attracted unprecedented corporate support. Duke Energy has invested $\$ 5$ mill SCE\&G . . new substation specifcally for the wind , partners include GE Energy, Intertech, Sante Cooper, and SCANA. Additionally, there are two partner consortiums focused on the grid integration and wind turbine test facilities with 26 members.

There is no question the Smart Grid Technology Center positions South Carolina to be a significant global competitor in the growing smart grid market, which is projected to attract $\$ 2$ trillion in investment by 2030 . By providing vision, resources, and synergy for public and private partners, South Carolina has the power to lead in the development of new products and services and in job creation

## GLOBAL POSITIONING THROUGH STEM

## MOST WANTED EMPLOYEES

In 2009, the US Department of Labor reported eight of the top ten most wanted employees had degrees in STEM fields: accounting, computer science, electrical engineering, mechanical engineering, information sciences, computer engineering, civil engineering, and economics and finance.

South Carolina's economic fortunes, like that of the world, depend on a workforce rooted in STEM (science, technology, engineering and mathematics). The fastest growing job sectors, the most sought after employees, and the highest salaries are in STEM fields.

The SmartState Program recognizes the critical importance of preparing South Carolina's young people for the future, which is why SmartState is a partner in the South Carolina Governor's School for Science \& Mathematics' (GSSM) Summer Program for Research Interns. For six weeks between their junior and senior years, GSSM students conduct research at university or industrial facilities under the mentorship of professional scientists, entrepreneurs, or engineers.

In the summer of 2013, 97

GSSM students were partnered with SmartState Endowed Chairs at Clemson University, MUSC, and USC based on their career interests. They spent their internships conducting graduate level research in areas including automotive engineering, cancer research, nan otechnology, and future fuels.

Dr. Kenneth Tew, chair, SmartState Council of Chairs, says the unique internship program brings STEM to life for the high school students, showing them the exciting opportunities available in science, technology, engineering

## and mathematics career fields in

 South Carolina."If we want to keep South Carolina's best and brightest students in our universities, we must show them the incredible portunities available to them here at home," said Dr. Tew. "Young people are South Carolina's future business leaders, entrepreneurs, researchers, and policymakers. Allowing them to work alongside the brightest people in STEM is very powerful, and opens the door to powerfu, andope door to iv universities and job market"

## A TOP STEM SCHOOL

Located in Hartsville, SC, the South Carolina Governor's School for Science and Mathematics is one of only 12 specialized, residential high schools in the nation for academically motivated juniors and seniors pursuing studies in science, technology, engineering, and math.

FAST GROWING \& HIGH PAYING According to the U. S. Labor Department, six of the fastest growing occupations and their median wages are in STEM fields:

## NETWORK SYSTEMS AND DATA

 COMMUNICATIONS ANALYSTS
## MEDICAL SCIENTISTS

## NG

## PHYSICIAN ASSISTANTS

## BIOCHEMIST

BIOCHEMISTS
AND BIOPHYSICISTS

From 2008-2018
" Planes are a huge, huge export market for the United States. This new SmartState Center and its focus on the aviation industry represent a tremendous opportunity for South Carolina. We have to do this right! "

## KENNETH REIFSNIDER, Ph.D.

 SMARTSTATE CENTER FOR MULTIPHYSICS OF HETEROGENEOUS ENGINEERED FUNCTIONAL MATERIALS \& STRUCTURES

Commercial aviation is the backbone of the American economy, driving more than $\$ 1$ trillion in annual economic activity and responsible for nearly 10 million well-paying American jobs.
hen multinational aviation corporation Boeing - announced it would build its new 787 Dreamliner in North Charleston in 2009, it was cause for celebration in South Carolina. News reports indicated initial plans called for creating 3,800 jobs. Then, April 2013 media reports announced Boeing would invest another \$1 billion and add at least 2,000 more jobs at its North Charleston 787 cam by 2020 , citing step do 787 commercia airplanes over the next two decades. Most recently, in November 2013, Boeing broke groundon a new jet propulsion plant in North Charleston, the company's first majo South Carolina investment not associated with the 787
'These jobs are included in our commitment that we announced earlier this year," Boeing South Carolina spokesman Rob Gross said in the Charleston Post \& Courier which added that the Chicago-based aerospace giant currently employs about 6,100 workers in the region.

South Carolina's position in the global aviation industry is climbing. But, the aviation industry is highly competitive Companies need lighter stronger aircraft that require less fuel to fly and maintenance to operate. Seeing an opportunity, the University of South Carolina (USC) proposed the nation's only SmartState Center focused on developing and testing the advanced material needed for modern, high performance aircraft.

This summer, the SmartState Program approved USC's Center for Multiphysics of Heterogenous En-
sineered Functional Materials \& Structures. The new Center leverages USC's expertise in nanocomposite materials.

In the past, aircraft were made of metal. Today's air craft are made largely of composite materials specifically chosen for certain properties. The significant advantage is cost;aircraft made of theseadvanced materials are more economical to operate and maintain.

USC researchers and graduate students are now working with South Carolina's aviation industry to study how the thermal, mechanical, and electrical properties of composite materials influence the global performance of ircraft. The research is complex, thus dialogue between USC and industry engineers is essential. Dr. Kenneth Reifsnider of USC explains: "We hold technical discus sions with them to brainstorm. There's good synergy. We do why, they do how."

Such relationships take a long time to build, but vield tremendous results for all parties. University re searchers gain a better understanding of industry needs and industry partners gain valuable scientific insight from university researchers. Students also benefit from research, internships, and jobs in aviation.
Says Reifsnider, "Work is more exciting with Sartners from our state's rapidly growing aviation industry. The opportunities before us have everyone's eyes lit up."

# SMARTSTATE PROGRAM RETURN ON INVESTMENT 

n 2002, the South Carolina -General Assembly had the vision to establish the SmartState Program. The legislation authorizes the state's three public research institutions-Clemson University, the Medical University of South Carolina, and the University of South Carolina-to use state lottery funds, matched with equal nonstate investment, to create Centers of Economic Excellence in research areas that would advance South
Carolina's economy.
Today, there are 51 SmartState Centers in six industry-focused Smart Clusters that position South Carolina well in the global economy: Advanced Materials \& Nanotechnology, Automotive and Transportation, Biomedical, Future Fuels, Information Science, and Pharmaceutical. Each Center is awarded between \$2 million to $\$ 5$ million in state lottery funds, which must be matched on a dollar-for-dollar basis with nonstate funds from corporations or other entities. The list of SmartState Center supporters includes BMW,

BASF, Bank of America Foundation, Westinghouse, and more supporters.

The program supports SmartState Endowed Chairs, world-renowned scientists and engineers who were recruited to
lead the Centers. By investing in talent and technology, the SmartState Program is fueling the state's knowledge economy and creating high-paying jobs and an improved standard of living in South Carolina.*

Economic growth requires vision, investment, and courage. It is driven by the creation of new technologies, company formation, business expansion, and job creation. Economic growth benefits all because it helps support a better quality of life.

DR. JOSEPH C. VON NESSEN, RESEARCH ECONOMIST
MOORE SCHOOL OF BUSINESS
UNIVERSITY OF SOUTH CAROLINA
SMARTSTATE PROGRAM BY THE NUMBERS


CORPORATE AND

ORGANIZATIONAL INVESTORS
More than three dozen companies have invested $\$ 500,000$ or more in the SmartState Program.

## Abney Foundation

BASF
Bank of America Foundation Biomass Gas \& Electric BlueCross Blueshield Foundation of SC BMW
Comporium Group
Daniel Island Company
Dialysis Clinics, Inc.
Duke Energy Foundation
Electric Cooperatives of South Carolina
Fluor Corporation
Force Protection Industries
General Atomics
George B. Sibert Annuity
GlaxoSmithKline
Greenville Hospital System
Health Sciences South Carolina
J.E. Sirrine Foundation

Kellogg Foundation
Kentwool
Michelin
Okuma
PalmettoNet
Research to Prevent Blindness
Robert Wood Johnson Foundatio
Samuel Freeman
Donaldson Charitable Trust
Santee Cooper
Smith \& Nephew
Spartanburg Regional
Healthcare System
The Duke Endowment
The Spaulding Paolozzi Foundation
Timken
Toyota
Westinghouse

START-UP COMPANIES
Start-up companies that were founded as a result of research at USC, MUSC, and Clemson University:
Advanced Photonic Crystals
Fibro Therapeutics, Inc
FirstString Research
Hydrogen Hybrid, LLC
ImmoMoa, inc.
MicroVide
MicroVide
MitoChem Therapeutics, LLC
MitoHealth
NextG
NXT
Palmetto Fuel Cell Technologies, LLC
Perfect Mixing, LLC
Protara, LLC
SAGE Energy Solutions
SchnellGen
SemiAllogen, Inc
SimTunes
Smart Innovations, LLC
South Carolina Science Solutions, LLC Specialty Custom Fibers, Inc.
Tetramer Technologies
Vortex Biotechnolog

CORPORATE RELOCATIONS
Companies that have relocated to South Carolina to take advantage of the expertise, resources, and graduates in the SmartState Program:

American Titanium Manufacturing
American Titanium Works
Technology Center
BMW Information Technology
Research Center (ITRC)
Cephos
Cephos
Clean Energy
Cooliemon* Technologies*
DreamWeaver*
Environmental and Health Inc. (EHG)
Fields Group, LLC.*
Focus Chemicals*
Greenway Energy, LLC
Innoventure*
JTEKT Technology Center
Mallet Technology*
Mumford Industries*
Proterra, Inc
Roding*
Sage Automotive Interiors ${ }^{*}$
Simpack, Inc.
ThermoPur Technologies*
Tigges*
Toho Tenax
Trulite


SMARTSTATE JOBS IN FOCUS:

## Creating Opportunities for South Carolinians

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rangeburg native Melanie Jef- "I earned my undergraduat ferson sees divine intervention in her job with SmartState Endowed Chair Dr. Chanita Hughes-Halbert. She also credits her expanding role as a research coordinator working on five major cancer disparity studies at the MUSC Hollings Cancer Center to the SmartState Program


## Melanie Jeffersor

 Research Coordinator"I earned my undergraduat degree at South Carolina State University and my Master's in Public Health Administration at the University of South Carolina. About the time I was hired at the Hollings Cancer Center, I lost my father to cancer. It really brought meaning to my work."

Jefferson was working with nother cancer researcher when she learned Dr. Hughes-Halbert was recruited as the AT\&T Distinguished Endowed Chair in Cancer Equity at MUSC. Jefferson had recently begun working on her Ph.D. and saw an opportunity to earn from one of the leading researchers in the nation in minoriy health and cancer prevention and control. "Dr. Hughes-Halbert came to MUSC from the University of Pennsylvania and rought new ideas and a different perspective, things I needed to develop my own research career. was very fortunate to join her
team," said Jefferson.
Jefferson's job is demanding and rewarding and comes with tre mendous responsibilities. Jefferson works with Dr. Hughes-Halbert in overseeing research projects, making sure grant funding runs smoothly and that all researchers and administrators stay on task. Without Dr. Hughes-Halbert and the SmartState Program, I would not have this wonderful career opportunity. Once I earn my PhD. I want to continue working in South Carolina. As a native I

Without Dr. Hughes-Halbert and the SmartState Program, I would not have this wonderfu career opportunity. understand the state's nuances and what's needed to help overcome disparities in cancer care and out comes. Helping the people of South Carolina achieve better health is very rewarding," said Jefferson


## SMARTSTATE JOBS IN FOCUS:

## Attracting Creativity

reativity comes in many
forms. Creative people are
essential in solving problems in business, health care, and government. The opportunity to be creative is one thing that caused Dr. Todd Thornburg to leave a position with Wake Forest University in North Carolina to start a new career with the Center for Healthcare Quality.

Dr. Thornburg is a senior program manager with the Center for Information Technology Implementation Assistance South
Here, I have the opportunity to work with professionals across the entire state of South Carolina and really make a difference.

Carolina (CITIA-SC), an initiative of the SmartState Center for Health Care Quality that has helped more than 1,300 doctors across South Carolina implement information
technology into their practices.
"At Wake Forest, I was working with the university only. Here, I have the opportunity to work with professionals across the entire state of South Carolin and really make a difference for doctors, their patients, and health researchers," said Dr. Thornburg CITIA-SC is the result of $\$ 5.6$ million federal grant secured by Health Sciences South Carolina and the SmartState Cartstate enter for Healthcare Quality Dr. Thornburg has collaborated with the s.C. Office of Rura Health, the S.C. Primary Health Care Association, and Carolinas Center for Medical Excellence to assist doctors across the state in using information technology to improve patient care and practice efficiency. He credits the SmartState Program and its vision for creating his rewarding job for creating h
"The SmartState Program attracts creativity from all over.

I've learned a lot about how to utilize the incredible talent South Carolina has in business, academics and nonprofits to get things done. It's exciting."


Dr. Todd Thornburg Senior Program Manager Senior Program Manager
Center for Health corre Ouality

SMARTSTATE JOBS IN FOCUS:

## A Fortunate Find

Dushkar Joshi's Internet search
for a graduate program in automotive engineering led him to Clemson University's International Center for Automotive Research (CU-ICAR). It was a fortunate find; two years later, he is an engine control engineer for EcoDual, a leading provider of dual fuel systems for the heavy-duty diesel truck industry


Pushkar Joshi | Engine Control Engineer |
| :---: |
| EcoDual |

Joshi smiled at the memory. "Most automotive engineering naster's programs give you book marts. CU-ICAR is unique; it's ook smarts and hands-on building of automotive parts and vehicles. ou learn by doing real world engineering with highly capable professors in a safe environment. If you make mistakes, you learn how o deal with them and avoid them in the future."

EcoDual President and CEO Mike Donoughe said it is important to have well-prepared people vailable to hire in South Carolina articularly for high-tech comanies like EcoDual that rely ong Meo in a specialized industry.
"Pushkar understands the need to blend research and application to the real world. His well-grounded education in engineering and pragmatism make him an attractive employee for EcoDual," explained Donoughe, a 30-year
veteran of the automotive industry, which includes leadership roles at Chrysler and Tesla Motors.

Joshi oversees a joint development project between EcoDual and CU-ICAR that seeks to improve the fuel systems of semi tractor trucks and reduce operational costs. At age 26 , he calls it his "dream job."
"Working for a smaller company like EcoDual gives me a lot of responsibility and freedom. I don't just sit at a desk all day: I'm working on groundbreaking

Most automotive engineering master's programs give you book smarts. CU-ICAR is unique; it's book smarts and hands-on building of automotive parts and vehicles
projects. I'm on speaking terms with our CEO! I am definitely for tunate to do what I love and have fun for a living," said Joshi.

MUSC
" Even with 12 simulation centers across South Carolina, 1,400 software training scenarios being marketed worldwide, and a $\$ 25$ million grant to expand simulation training, there's so much more we can do."

JOHN J. SCHAEFER, III, MD ENDOWED CHAIR, SMARTSTATE CENTER FOR CLINICAL effectiveness \& Patient safety

HEALTHCARE SIMULATION

Dr. John J. Schaefer, III, an expert in healthcare simulation training, was among the first endowed chairs recruited to the SmartState Program in 2006.

A $t$ the time, the use of software-driven patient simulators to train medical, nursing, and allied health was a luxury few universities or technical colleges could afford. At \$300,000 each, human simulators were out of reach to an industry desperately in need of a more effective clinical training.

The vision of the Center for Clinical Effectiveness \& Patient Safety is to make South Carolina a world leader in healthcare simulation training. Working with business ally Laerdal, a European healthcare simulation company, Schaefer has succeeded in making human simulation training more accessible and affordable in South Carolina. Twelve simulation-training centers have been established with university, hospital, and technical college partners, including world-class training centers at MUSC and the Greenville Health System.

He also succeeded in commoditizing the healthcare simulation market, bringing the price of a high fidelity simulator-lifelike adult, child, and infant mannequins-down to about $\$ 30,000$. When Schaefer joined the SmartState Program, there were less than 3,000 healthcare simulations in use in America. Today, there are more than 60,000.

Commercial success followed. In 2012, Schaefer launched SimTunes, an online store that sells simula-
tion-training software developed in South Carolina to users around the world. He has a patent pending on a mannequin that delivers a baby on its own and mimics emergency situations. The specialized simulator goes on the market in January 2014. Lippincott nursing textbooks now come with companion simulation training scenarios. In early October, Schaefer was part of an effort led by Midlands Technical College that secured a $\$ 25$ million grant to implement the Better Occupational Outcomes and Simulation Training program (BOOST) from the U.S. Department of Labor, Employment and Training Administration. Midlands Tech and others, including Central Carolina Technical College in Sumter and Florence-Darlington Technical College, will now use simulation training to fast track the education of entry-level healthcare employees with fewer resources and greater efficiency.

This SmartState Center is making great strides. The next target is the multi-million dollar healthcare certification and licensure industry. Simulation, with its ability to objectively measure a student's knowledge, has the potential to transform how healthcare professionals around the world become certified or licensed and create more opportunities for educating the health care workforce.

## SMARTSTATE CENTERS AND ENDOWED CHAIRS

## 2012-2013 THE YEAR IN REVIEW

The work of South Carolina's SmartState Centers tance to the state, nation, and world. What follows
is a brief overview of each Center. To lear more about the SmartState Program, visit SmartStateSC.org.

## TOTALS FOR SMARTSTATE PROGRAM

51 SmartState Program Centers Awarded89 SmartState Endowed Chairs CreatedD 44 SmartState Endowed Chairs Appointed

- 45 SmartState Endowed Chairs Remaining to be Appointed

| WCLEMSON |  |  |
| :---: | :---: | :---: |
| 13 | 18 | 20 |
| 16 | 30 | 43 |
| 6 | 18 | 20 |
| 10 | 12 | 23 |

Program totals as of fiscal year end June 30,2013 Research Institutions Totals, Awarded, and State Funds Drawn for each institution are tallied on th fiscal agent in cases of joint proposals. Chairs are
tallied based on the assigned institution. For updated information on Centers and program totals, contact the S.C. Commission on Higher Education or visit SmartStatesc.org.

## ADVANCED FIBER-BASED MATERIALS

Award Date: 2006
State Award Amount: \$4 million
University: Clemson
Endowed Chair:
Dr. Marek Urban
J.E. Sirrine Foundation Endowed Chair
J. . Advanced Fiber-Based Mederial

Corporate Partner
J.E. Sirrine Textile Foundation

External Funding Above Match:
$\$ 7.7$ million
Research Focus:
To provide the vehicle for repositioning existing manufacturing resources to support new industry opportunities based on advanced fiber-based products.
ENVIRONMENTAL NANOSCIENCE AND RISK

Award Date: 2008
State Award Amount: $\$ 3$ million
University: USC
Endowed Chair
Dr. Jamie Lead
Nanoenvironmental Science \& Risk
External Funding Above Match:
$\$ 1.5$ million
Research Focus:
Understand the fundamental proper ties of nanomaterials and nanoma-erials-environment interaction and use these principles to understand and help reduce impacts of nanomaterals as used as well as develop and innovate nanotechnological applications.

PHYSICS
Award Date: 2003
State Award Amount: \$4 millio
University: USC
Endowed Chair:
Dr. Richard Webb
External Funding Above Match $\$ 3.5$ million
Research Focus:
Perform basic and applied research of potential spintronic optoelectronic and nanoelectronic devices and/or materials for future applications in information processing, high-speed, high-density electronics, and bio, chemical and radiation sensing.
MULTIPHYSICS OF
heterogeneous engineered EUNCTIONAL MATERIALS \& STRUCTURES
Award Date: 2013
tate Award Amount: \$2 million
University: USC
Endowed Chair(s):
USC is recruiting one endowed chair

## Research Focus:

The development and supply of engineered materials for high technology industries such as aerospace by providing a foundation of research and development that will enable and enhance growth in the engineered materials field. Specific examples include L Lightning strike and EM management, structural integrity, energy storage, essential power for commercial aircraft and multi-phys ics-based micro/nano mechanics of dielectric materials.

OPTICAL MATERIALS/PHOTONICS Award Date: 2004

State Award Amount: \$5 million
University: Clemson
Endowed Chair:
Clemson is recruiting J.E. Sirrine Textile Foundation Endowed Chair in Optical Fiber.
Corporate Partner:
J.E. Sirrine Textile Foundation

External Funding Above Match: $\$ 18.8$ million

Research Focus: recruit and mentor graduate students with a focus on domestic scholars. Identify and foster the latest technol ogies and initiate partnerships with top national research universities and laboratories, Aid South Carolina industry and economic development partners in the transfer of technology from Clemson to the public sector, and participate in the recruitment of optical technology frms to South Carolina
POLYMER NANOCOMPOSITES Award Date: 2004
State Award Amount: $\$ 3.5$ million
University: USC

## Endowed Chair

Indowed Chair:
Dr. Brian Benicewicz
Materials Science \& Engineering
Corporate Partners
Michelin North American, BASF, U.S Navy, PBI Performance Products
$\$ 8.8$ million
$\$ 8.8$ million

## Research Focus:

Development of synthetictor ed to precisely control the tools need ment or interface between nanopart cles and polymer matrix applicable to optics, electronics, biological medica, and structural material applications.

## AUTOMOTIVE \& TRANSPORTATION

aUtomotive design and development
Award Date: 2003
State Award Amount: \$5 million
University: Clemson

## Endowed Chair(s):

Dr. Zoran Filipi
Timken Endowed Chair in Automotive Design \& Development
Corporate Partners:
Hertz Corporation, Duke Energy
External Funding Above Match:
$\$ 1.6$ million
Research Focus:
Focuses on the research and design
of advanced powertrains for internal
combustion engines and hybrid
and electric vehicles, along with
functional integration and structural
dynamics for vehicles.
AUTOMOTIVE MANUFACTURING

## Award Date: 2003

State Award Amount: $\$ 5$ million
University: Clemson
Endowed Chair:
Recruiting
Corporate Partner(s):
BMW
External Funding Above Match:
$\$ 5.6$ million
Research Focus:
Develops micro-electromechanical systems technologies for manufacturing and improving the efficiency of manufacturing large, complex objects. The goal is for the Center to be the premier automotive and mod educational facility in the world.

SUPPLY CHAIN OPTIMIZATION AND LOGISTICS
Award Date: 2005
State Award Amount: \$2 million
University: Clemson

## Endowed Chair:

Dr. Scott Mason Optimization \& Logistics

## Corporate Partner(s):

 FluorExternal Funding Above Match $\$ 4.8$ million
Research Focus:
Interdisciplinary research addressing the multifaceted problems associated with supply chains. Deliver and logistics products and services through theoretical and applied research.
VEHICLE ELECTRONIC SYSTEMS integration
Award Date: 2004
State Award Amount: $\$ 3$ million

## University: Clemson

## Endowed Chair:

Dr. Todd Hubing
Michelin Endowed Chair in Vehicle
Electronic Systems Integration
Corporate Partner:
Michelin

## External Funding Above Match

## $\$ 1.5$ million

Research Focus:
Research in automotive and vehicular electronics, particularly systems integration issues, electromagnetic

BIOMEDICAL

AUTOMOTIVE SYSTEMS
integration
Award Date: 2003
State Award Amount: \$5 million
University: Clemson

## Endowed Chair

Dr. Paul Venhovens
BMW Endowed Chair in Automotive Systems Integration
Corporate Partner(s): BMW, Mazda, GM and others

## External Funding Above Match:

$\$ 1.5$ million
Research Focus:
Automotive diagnostics and prognostics, sustainable mobility, connostics, sustainable mobility, consimple, flexible energy management control strategy for plug-in hybrid electric vehicles.

ADVANCEDTISSUE
ADIOFABRICATION
Award Date: 2008
State Award Amount: \$5 million
Universities: Clemson, MUSC, USC
Endowed Chairs:
Recruiting end rication Biology and Biofabrication Engineering
Research Focus:
Develop innovative technologies approaches that will enable repair,
replacement, or restoration of dis
eased cells, tissues and organs.

## bRAINIMAGING

Award Date: 2003
State Award Amount: \$5 million
Universities: MUSC, USC
Endowed Chairs:
Dr. Chris Rorden, USC
Brain Imaging
Dr. Joseph Helpern, MUSC
Brain Imaging
MUSC is recruiting an additional
chair
External Funding Above Match: $\$ 2.1$ million

## esearch Focus

Creating a world-class brain imagin Createrin a world-class brain imaging
center. Initiated the first study using transcranial magnetic stimulation MRI TMS provides a short strons magnetic field useful for studying how the brain works Specific studi include stroke-related brain injury and MRI physics techniques for clin cal and neuroscience research.

PROSTATE CANCER DISPARITIES
Award Date: 2008
State Award Amount: \$3.6 million
University: MUSC, USC, SC State University
Endowed Chairs:
Dr.Chanita Hughes-Halbert AT\&T Distinguished Endowed Chair in Cancer Equity in Cancer Disparities
MUSC and USC are each recruiting chair in Cancer Disparities.

AT\&T Foundation
External Funding Above Match $\$ 22.5$ million
Research Focus:
Facilitate statewide partnerships in cancer prevention and control to significantly decrease disparities in protate cancer incidence and mortality in South Carolina

CHILDHOOD NEUROTHERAPEUTICS Award Date: 2006
State Award Amount: \$5 millio Universities: USC, MUSC
Endowed Chairs:
MUSC is recruiting an endowed chair in Neurodevelopmental Dysfunction Dr. Jeffrey Twiss, USC Child and Adolescent Neurobiology
External Funding Above Match $\$ 7.2$ million

## Research Focus:

Prevention of brain damage in premature infants and curing infant brain diseases through cellular engineering. Also working on cognitive behavioral tasks in transgenic mice to determine if therapeutics can improve functiona
development outcomes, which may
ompatibility and electromagnetic modeling.

CLINICAL EFFECTIVENESS AND PATIENT SAFETY Award Date: 2005 State Award Amount: \$5 million Universities: MUSC, USC

## Endowed Chairs:

Dr.John Schaefer. MUSC Lewis Blackman Endowed Chair for Pa ient Simulation \& Research for Health Sciences South Carolina
Dr. Jihad Obeid, MUSC
Biomedical Inform
Rita Snyder, USC
Clinical Effectiveness \& Patient Safety

## External Funding Above Match:

 $\$ 9.8$ million
## esearch Focus

Quality and safety of patient care, and improving the medical informatiss aspects of data acquisition and he evaluation of health information technology on the quality and
safety of clinical care processes and outcomes. The Center also focuses on developing South Carolina as a training center for physicians and other health professions using human simulators and sophisticated software-based training scenarios.

| BIOMEDICAL |  |  |
| :---: | :---: | :---: |
|  |  |  |
| CARE QUALITY | INFLAMMATIONAND FIBROSIS | MOLECULAR PROTEOMICS IN |
| Award Date: 2006 |  |  |
| State Award Amount: \$5 million |  |  |
| Universities: USC, MUSC St |  |  |
| ndowed Chairs: University: MUSC |  |  |
| Dr. Jay Moskowitz, USC | Endowed Chairs: | University: MUSC |
| James B. Duke SmartState Endowed Chair in Health Care Quality | MUSC is recruiting two endowed chairs, Inflammation Research and | Endowed Chairs: <br> MUSC is recruiting two chairs. |
| MUSC is recruiting one chair. | Kitty Trask Holt Endowed Chair for Sclerderma Diseases. | External Funding Above Match: $\$ 3.4$ million |
| The Duke Endowment | External Funding Above Match: $\$ 9.2$ million | Research Focus: |
| External Funding Above Match: $\$ 20$ million | Research Focus: | Translation advances in basic bench science to clinical bedside care to im- |
| Research Focus: <br> Creating a unique and comprehensive clinical data store that collects data from providers, enhances data usability, and makes it available in an easily accessible form for participants to use for clinical improvement and research purposes. | tion programs for inflammatory and fibrosing rheumatic diseases such as lupus, scleroderma, and rheumatoid arthritis. <br> MARINE GENOMICS | of South Carolina. Priorities include diagnostic techniques, therapeutic management strategies, relations of protein signatures to clinical outcomes for risk assessment, and treatment of disease manifestation. |
|  | ard Date: 2003 | NeUROSCIENCE |
|  | State Award Amount: \$4 millio | Award Date: 2003 |
| HEALTH FACILITIES DESIGN AND TESTING | Universities: MUSC, USC, College of Charleston | State Award Amount: \$3 mill |
| Award Date: 2007 | Endowed | rsit |
| State Award Amount: $\$ 2$ million <br> University: Clemson, MUSC <br> Endowed Chair: <br> Clemson is recruiting a chair in Architecture \& Health Research. <br> MUSC is recruiting a chair in Human Factors Medical Research. | Louis J. Guillette, MUS | Endowed Chai |
|  | Marine Genomics | Dr. Gary Aston Jones |
|  | Dr. Gavin Naylor, MUSC Bioinformatics | William E. Murray Endowed Chair Neuroscience |
|  | Dr. Stephan Kresovich, USC Marine Genomics | MUSC is recruiting an endowed chair in Movement Disorders. |
|  | External Funding Above Match $\$ 8.7$ million | MUSC is recruiting Josephine Tucker Morse Endowed Chair in Parkinson's |
| External Funding Above Match: \$1.4 million | Research Fo |  |
| Research Focus: <br> The impact of health facility design on health and healthcare delivery and the creation of architectural settings that provide better support for the health, safety, and wellbeing of patients and staff. | Monitoring and predicting the impact of environmental changes on marine biosystems, which can, in turn, affect human health. Specific areas of study include environmental causation in wildlife, human disease and susceptibility, and mapping variability in genomes and populations; as well as research of shark and ray species. | External Funding Above Match: <br> $\$ 10.9$ million <br> Research Focus: <br> Brain neuromodulatory systems and their roles in cognitive performance, drug abuse, sleep and affective disorders. Other areas of research are movement disorders such as Ataxia, Choro, Bradykinesia and multiple system atrophy. |

BIOMEDICAL

PROTEOMICS
Award Date: 2003
State Award Amount: \$4 million
University: MUSC
Endowed Chair:
Dr. Richard Drake
MUSC is recruiting a second chair.
External Funding Above Match:
$\$ 20.6$ million
Research Focus:
Develop and use high-end analytical
technologies to understand the
biologic profile of protein expression
in health and disease. Developing
enzyme-based analytical methods
to effectively detect biomolecules
in tissues and tissue microarray
platforms
REGENERATIVE MEDICINE
Award Date: 2003
State Award Amount: \$5 million
Universities: MUSC, USC, Clemson

## Endowed Chair

Dr. Richard Swaja, MUSC
Regenerative Medicine and Cell Biology
Dr. Martin Morad, USC
BlueCross Blueshield of SC Foundation
Chair in Cardiovascular Health
Clemson is recruiting the Hansjörg
Wyss Endowed Chair in Regenerative Medicine.
External Funding Above Match
$\$ 37.1$ million
Research Focus:
Regenerative medicine approach for cardiovascular applications and provide expertise in clinical trials, statistics and//or assay development. Application of regenerative medicine
and tissue engineering approaches to and tissue engineering approaches to feneration of tissue and orgns for epairing replacins and maintaini repairing, replacing, and maintaining

REHABILITATION AND RECONSTRUCTION SCIENCES Award Date: 2007
State Award Amount: \$5 million University: USC

## Endowed Chair:

Dr. John Brooks, USC
Reconstructive Methodologies \& Materials
External Funding Above Match: $\$ 14.7$ million

## Research Focus:

Medical health needs in orthopaedic disorders, exercise and sports-related injury prevention, treatment, and
 neered materials and implantable devices to find solutions to muscub. skeletal maladies.

RENAL DISEASE BIOMARKERS
Award Date: 2008
State Award Amount: \$5 million
University: MUSC
Endowed Chair(s):
MUSC is recruiting chairs in Renal Biomarkers and Translational Nephrology Research.
External Funding Above Match: $\$ 4.1$ million

## Research Focus:

Identifying biomarkers that identify or predict prognosis for acute kidney injury, diabetic neuropathy, lupus nephritis, and focal segmental alo merulosclerosis.

SENIORSMART" ${ }^{m}$
Award Date: 2007
State Award Amount: \$5 million
Universities: USC, Clemson
Endowed Chairs:
Dr. Sue Levkoff, USC
Community \& Social Support
USC is recruiting a chair for Memory \& Brain Functions.
Clemson is recruiting a chair in Driv
ing, Mobility \& Physical Functioning.
$\$ 7.2$ million

## Research Focus:

Three areas of research include SMARTBrain ${ }^{\text {me }}$ (maintaining intellec tual activity), SMARTWheels ${ }^{m \times 1}$ (independent mobility outside the home) and SMARTHome ${ }^{m=}$ (independent mobility inside the home) to foster independent living among seniors.

STROKE
Award Date: 2007
State Award Amount: \$5 million
Universities: MUSC, USC
Endowed Chairs:
Dr. Robert Adams, MUSC Stroke
Dr. Mark Chimowitz (MUSC) Countess Alicia Paolozzi Endowed Chair in Translational Neurology
Dr. Souvik Sen, USC
Translational Neurology

## External Funding Above Match:

$\$ 5.1$ million

## Research Focus:

Enhancing stroke treatment, prevention, and recovery. This Center therapeutics, drug discovery and biotechnology and is a leader in biotechnology, and is
stroke telemedicine.
technology center to ENHANCE HEALTHFULLIFESTYLES Award Date: 2009
State Award Amount: \$3 million

## Universities: MUSC, USC

## Endowed Chair:

Dr. Frank Trieber, MUSC
Technology Applications to Prevent \& Manage Disease \& Reduce Risk
Delia West, UsC
Technology Application for Health Technology Application
External Funding Above Match: \$11.6
Research Focus:
Develop and test lifestyle interventions for improving health, prevent ing illness and managing chronic health problems caused by physical inactivity, poor diets, and othe lifestyle behaviors.

Award Date: 2007

State Award Amount: \$5 million
University: MUSC
Endowed Chairs:
MUSC is recruiting the BMW Chair in Cancer Research and Burtschy Family Distinguished Endowed Chair in Lung Cancer Research.

## Corporate Partner:

BMW
External Funding Above Match $\$ 25.8$ million
Research Focus:
Devoted to discovering tobacco-related malignancy biomarkers via clinical trials with a specific focus on tobacco-related cancers. Additionally, the Center is evaluating the specifcity and sensitivity of novel biomarkers by molecular epidemiologic techniques across the diverse populations of South Carolina
translational biomedical informatics
Award Date: 2013
State Award Amount: \$2 million
University: MUSC

## Endowed Chair(s):

MUSC is recruiting one chai

## Research Focus:

The new Center will provide expertise in translational biomedical informat ics essential for cutting-edge, innovative methodologies to lonk genetic genomic data with vast amounts of clinical data. The contributions of the enter to data sharing/analysis will decrease cost and increase efficienc n research and healthcare delivery nd provide a robust IT platform or industry partnerships and new company formation

## FUTURE FUELS

CATALYSIS FOR RENEWABLE FUELS
Award Date: 2005
State Award Amount: \$3 million
University: USC

## Endowed Chair:

Dr. John Regalbuto
External Funding Above Match:
$\$ 2.9$ million
Research Focus:
Developing catalysts that allow production of alternative fuels from renewable sources, thereby reducing dependence on imported oil and carbon fuel. The Center focuses on synthesizing inorganic catalysts for converting biomass to biofuels and synthesizing electrocatalysts for solar fuels and fuel cells.

GENERAL ATOMICS CENTER FOR THE DEVELOPMENTOF TRANSLATIONAL NUCIEAR TECHNOLOGY
Award Date: 2009
State Award Amount: \$3 million
University: USC
Endowed Chair:
USC is recruiting one chair
Corporate Partner
General Atomics

## External Funding Above Match:

## $\$ 3.9$ million

## Research Focus:

The production of biofuels and coas to liquid fuels using nuclear process heat for more efficient production and the reduction of wastes associated with recycling of used fuel, seeking more long term strategies to manage used fuel, recovery of energy value in used fuel, and eliminating concerns over proliferation associat ed with recycling used fuel.

HYDROGEN ECONOMY
Award Date: 2004 State Award Amount: $\$ 5$ millio University: USC
Endowed Chairs:
USC is recruiting two chairs.
Corporate Partner:
Office of Naval Research (projects)
External Funding Above Match:
\$21.6 million
Research Focus:
Advance the science and use of clean, secure and renewable energy technologies and transportation fuel, including hydrogen fuel cells.

NUCLEAR SCIENCE AND ENERGY Award Date: 2008
State Award Amount: $\$ 3$ million University: USC
Endowed Chair:
Dr. Dan Gabriel Cacuci
Corporate Partners: Duke Energy, Progress Energy Duke Energy, Progress
SCANA, Westinghouse
External Funding Above Match $\$ 5.8$ million

Research Focus:
Performance, efficiency, and maintenance issues at existing and future nuclear power plants using expertise modeling and simulation related to nuclear fuels and materials.
SMART GRID TECHNOLOGY Award Date: 2013
State Award Amount: \$5 million

## University: Clemson

## Endowed Chair

Clemson is recruiting endowed
chairs.
Corporate Partner:
Duke Energ

Research Focus:
Develop technology to better manage global electric grid systems.

SOLID OXIDE FUEL CELLS
Award Date: 2006
State Award Amount: $\$ 3$ million
University: USC
Endowed Chair:
Dr. Kenneth Reifsnider
External Funding Above Match:
$\$ 54$ million

## Research Focus:

Develop solid oxide fuel cells for use in large, high-power systems such nustrial sites and electricity generating stations as well as for mobie and other electronics.

STRATEGIC APPROACHES TO THE GENERATION OF ELECTRICITY (SAGE)
Award Date: 2007
State Award Amount: $\$ 5$ million
University: USC
Endowed Chair:
Dr. Jochen Lauterbach
External Funding Above Match: $\$ 9.8$ million

## Research Focus:

Developing, improving, and advanc ing technologies to enhance the environmental performance of electricity production. Other work focuses on converting CO2 to chemicals, fuel ell and hydrogen storage-related research, from coal to biomass.


## SMARTSTATE WELCOMES FIVE ENDOWED CHAIRS IN 2012-2013

In 2012, the SmartState Program welcomed five new endowed chairs: Dr. Carolyn D. Britten, Center for Gastrointestinal Cancer Diagnostics, MUSC; Dr. Marek W. Urban, Center for Advanced Fiber Materials, Clemson; and Dr. Xue-Zhong Yu, Center for Can-
cer Stem Cell Biology and Therapy, MUSC. Dr. Delia Smith West, Endowed Chair of Technology Application for Health Behavior Change, USC; Dr. Application for Health Behavior Change, USC, Dr.
John Brooks, Endowed Chair in Rehabilitation and Reconstruction Science, USC.

## PHARMACEUTICAL

CANCER DRUG DISCOVERY Award Date: 2005
State Award Amount: \$5 million
Universities: MUSC, USC

## Endowed Chairs:

Dr. Charles Smith Musc Charles and Carol Cooper Chair in Pharmacy
Dr. John LeMasters, MUSC GlaxoSmithKline Distinguished Endowed Chair
Dr. Patrick Woster, MUSC
Medicinal Chemistry
MUSC is recruiting a chair in Structural Biology
Corporate Partner:
GlaxoSmithKline
External Funding Above Match: $\$ 15$ million
Research Focus:
Advanced biomedical screening technologies to identify disease mechanisms and targets, and also screening drug candidates. Structural biology for target analysis, chemical biology for designing drug chemical biology for designing drug
candidates, and advanced biomedical screening technologies.
CANCER STEM CELL BIOLOGY AND THERAPY
Award Date: 2008
State Award Amount: $\$ 5$ million
Universities: Clemson, MUSC
Endowed Chairs:
Dr. Zihai Li, MUSC
Abney Endowed Chair Remembering
Sally Abney Rose
Dr. Xue Zhong Yu, MUSC Biomedical Engineering
External Funding Above Match:
$\$ 8.3$ million
Research Focus:
Developing new technologies for
isolating, growing, and manipulating cancer stem cells. This will enable the Center to find ways to use adult sten treat cancer.
GASTROINTESTINAL CANCER diAGNOSTICS
Award Date: 2005
State Award Amount: \$5 million
University: MUSC
Endowed Chairs:
Dr. Melanie Thomas
Grace E. DeWolff Endowed Chair in Medical Oncology
Dr.Carolyn Britten
GI Malignancy Diagnostic \& Therapeutic Trials

## Corporate Partner:

Roche Carolina, Bank of America
External Funding Above Match $\$ 9.1$ million
Research Focus:
Clinical and translational gastrointestinal oncology and biomarker development and gastrointestinal (GI) malignancies. Bringing state-of-the-art translational medicine to all GI cancer patients in South Carolina thereby decreasing the overal impact of cancer mortality and morbidity and closing disparity gaps throughout the state.

PIDOMICS, PATHOBIOLOGY AND therapy
Award Date: 2009 State Award Amount: \$5 million University: MUSC
Endowed Chairs:
MUSC is recruiting chairs in Lipidomics \& Pathobiology and Lipidomics Drus Discovery.
xternal Funding Above Match $\$ 24.6$ million

Research Focus:
Develop models for translational research and study of lipidomics and their pathobiology with an emphasis on cancer and inflammation.
MEDICATION SAFETY AND EFFICACY
Award Date: 2008 State Award Amount: \$2 million Universities: MUSC, USC

Endowed Chair:
Charles Bennett
External Funding Above Match: $\$ 2.3$ million Research Focus: Increasing drug safety and effec tiveness, as well as decreasing medication errors by identifying the incidence and significance of advers drug events.
translational cancer therapeutics Award Date: 2004 State Award Amount: \$5 million Universities: MUSC. USC

Endowed Chairs:
Dr. Kenneth Tew, MUSC John C. West Endowed Chair in Cancer Research
Dr. Igor Roninson, USC
Translational Cancer Therapeutics
External Funding Above Match: $\$ 15.2$ million Research Focus: Development of new approaches in cancer treatment, including the discovery and development of new drugs. Research also focuses on utilizing mouse models predisposed to cancer to study the impact of gene misregulation and therapeutic agents on tumor development, and the identification and inhibition of new cancer drug targets.

## SMARTSTATE ENDOWED CHAIRS

They are the ones who bring meaning to our lives, who happen to inspire, who spark a fire that we carry with us for the rest of our days, who are but pillars of hope and sometimes sacrifice, life-changers, life-savers, catalysts. "

South Carolina's SmartState Centers are led by endowed chairs; they are engineers, scientists, and researchers who are recognized experts in their respective fields.

The role of SmartState endowed chairs is to serve as - catalysts for the state's knowledge economy. Eightynine endowed chairs have been approved to fill positions
at Clemson, MUSC and USC; 44 have been appointed. The universities are actively recruiting for the other positions. We invite you to meet the SmartState endowed chairs.


Neuroscience
MUSC
 USC


Dr.Brian Benicewicz Polymer Nanocomposites

USC
 Stroke
MUSC


Dr. Charles Bennett Medication Safety and Efficacy



Dr. Simon Hudson Tourism and Economic Development
USC



Dr. Louis Guillette
Dr. Louis Guillette
Marine Genomics MUSC


Prostate Cancer Disparities MUSC


Dr. Joseph Helpern Dr. Joseph Helper
Brain Imaging MUSC


Dr. Eric Johnson Optoelectronics Clemson


Dr. John LeMasters Cancer Drug Discovery MUSC


## SMARTSTATE

 ENDOWED CHAIRS

Dr. Jihad Obeid Clinical Effectiveness Clinical Effectiveness
and Patient Safety MUSC



Dr. Martin Morad
Regenerative Medici
USC


Dr. John Regalbuto Catalysis for Renewable Fuels USC


Dr. Kenneth Reifsnider Solid Oxide Fuel Cells USC


Stroke
Stroke


Dr. Charles Smith
Cancer Drug Discovery MUSC


Dr. Melanie Thomas
Gastrointestinal Cancer
Diagnostics
MUSC



Dr. Rita Snyder Dr. Rita Snyder
Clinical Effectivenes and Patient Safety


Technology Center to Enhance
Healthy Lifestyles


## CLEMSON

## CU-ICAR DEEP ORANGE



It's high praise when an automotive industry leader recognizes a South Carolina university's vision to be the world's premier automotive, performance aftermarket, and motorsports research and education facility.

John Waraniak is vice president of technology
development for the Specialty Equipment Market Association (SEMA), which hosts one of the automotive industry's premier events each year in Las Vegas. The SEMA Show attracts more than 120,000 attendees and 2,000 exhibitors. CU-ICAR students and their prototype vehicles built as part of the Deep Orange project are becoming regular, high profile participants at the SEMA Show. Waraniak recently cited Deep Orange for "encouraging innovation, entrepreneurship and creativity"

Deep Orange is a ground-breaking, two-year program that teams Clemson automotive engineering students with multidisciplinary faculty like Dr. Paul Venhovens, BMW Chair in Automotive Systems Integration, and corporate sponsors to research, design, engineer, and build a functioning vehicle prototype. To date, students have successfully completed three prototypes with two more in progress.

The list of Deep Orange corporate sponsors reads like a global automotive industry who's who: BMW, GM, and Mazda. Industry suppliers contributing components, software, or services include Michelin, Sage Automotive Interiors, JPS Composite Materials, Ryobi, Kicker Car Stereos, Altair (software), and KTM Solutions (engineering). For students, the opportunity
to work with these companies as well as CU-ICAR faculty like Dr. Venhovens who previously worked at BMW's R\&D headquarters in Munich, Germany, is a dream come true, moving the educational experience light years beyond textbooks and lectures and preparing them for lucrative careers.

Corporate sponsors find the experience equally rarding. Mazda sponsored Deep Orange 3, in which CU-ICAR automotive engineering students worked with design students from the Art Center College f Design in California to create a vehicle prototype dubbed "The Next Big Thing" that addresses the needs of Gen Y consumers as well as automotive require ments like fuel efficiency, low carbon footprint, and lightweight materials. Sponsors benefit from the op portunity to identify talented future employees.
"This is a concept vehicle program like no other Deep Orange 3 was done the Mazda way, with new approaches to lightweight materials and power train ehnology" said Robert Davis, senior vice president, Naz No Ant, "Students did位 job estab ishing wher esearch around it, and developing and implementing new techniques of manufacture and design in the car that they built. It's a homerun!'

## POSITIONED FOR THE FUTURE

Thomas Friedman's book, The World Is Flat, was the source of great debate when first published in 2005. The globalization of the world's economy, where every nation competes on a level playing field, was difficult for some to comprehend. What happened to global dominance by a few nations? Was the United States falling behind? How could the nation maintain its status as the world's top economy?

T
he answer is through innovation. Few countries ame-changing toch innovate and create novel, Same-changing technologies quite like the United as the world is truly flat. he world is truly flat.
From the initial vision of the South Carolina General Assembly, the SmartState Program has been the impetus for innovation and economic development in the Palmetto State. Today, South Carolina has strong and growing economic clusters in the automotive, aviation, energy, biomedical, pharmaceutical, and advance materials industries, all of which are of critical importance to the state, nation and the world. These economic clusters are creating opportunities for researchers, students, corporate partners, entrepreneurs, and all South Carolinians for better jobs and quality of life.

The SmartState Program has helped put South Carolina in an enviable position, a state well positioned for the global economy. The program will continue to evolve and improve, keeping South Carolina at the forefront of innovation.


SMARTSTATE PROGRAM CONTACTS
SOUTH CAROLINA COMMISSION ONHIGHER EDUCATION

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| :--- | :--- |
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| Julie Carullo | anderson@che.sc.gov |
| Deputy Executive Director for | Tanya Rogers |
| Administration and Director of | Program Coordinator |
| External Relations | Compliance and Special Projects |
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## Catherine "Casey" Porto

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Faculty Development curtsch

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## SmartState

## SMARTSTATESC.ORG

South Carolina Commission on Higher Education<br>1122 Lady Street, Suite 300<br>Columbia, South Carolina 29201

# SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE 

FINANCIAL AND
COMPLIANCE REPORT
JUNE 30, 2013

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SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE REVIEW BOARD
JUNE 30, 2013

| NAME | POSITION | APPOINTMENT |
| :--- | :--- | :--- |
| Regan Voit | Chair | Chair, Senate Finance Committee |
| Melvin C. Williams | Vice-Chair | President Pro Tempore of the Senate |
| Keith D. Munson | Secretary | Governor |
| Patrick Turner | Member | President Pro Tempore of the Senate |
| Robert W. Pearce, Jr. | Member | Speaker of the House |
| Patricia E. Wilson | Member | Speaker of the House |
| Lisa Main | Member | Governor |
| J. Lyles Glenn | Member |  |
| Catherine Heigel | Ex-Officio |  |
| Michael N. Couick | Ex-Officio |  |
| James F. Barker | Ex-Officio |  |

Management's Discussion and Analysis provides an overview of the SmartState program and data covering the fiscal year ended June 30, 2013. This discussion and analysis should be read in conjunction with the financial statement and accompanying notes. The financial statements have been prepared by an independent auditor (Derrick, Stubbs \&Stith, LLP) in accordance with S.C. Code of Laws, as amended, Section 2-75-10.

## Overview of the SmartState Program

In 2002, the South Carolina General Assembly passed the Research Centers of Economic Excellence (RCEE) Act. The legislation originally required appropriation of $\$ 200$ million through $2010^{1}$ from the South Carolina Education Lottery to establish unique Centers of Economic Excellence at South Carolina's three senior research institutions: Clemson University, University of South Carolina (USC), and Medical University of South Carolina (MUSC). Each Center of Economic Excellence (Center) specializes in unique, knowledge-based economy research (in fields such as engineering, nanotechnology, biomedical science, and energy science) that promotes and creates enhanced economic opportunities for the state. In 2008, the General Assembly amended the RCEE Act to replace the $\$ 200$ million funding cap and the 2010 sunset date with a statutory guarantee of $\$ 30$ million in annual funding so long as (a) Lottery-supported scholarships have been fully funded, and (b) the SmartState Review Board has, by the end of the most previous fiscal year, awarded a minimum of $80 \%$ of overall appropriations since 2003.

The RCEE Act also created the SmartState Review Board, which provides program oversight. The Review Board is composed of 11 members: three appointed by the

[^1]Governor; three by the President Pro Tempore of the Senate; three by the Speaker of the House of Representatives; one by the Chair of the Senate Finance Committee; and one by the Chair of the House Ways \& Means Committee. Membership terms are three years, and individuals may serve three total terms. Presidents of South Carolina's three research universities serve as ex-officio, non-voting members of the Review Board. Staff and operational support for the SmartState Program is provided by CHE.

The SmartState Review Board held its first meeting on October 17, 2002, at which it approved formal Bylaws. On December 5, 2002, the Review Board approved Program Guidelines and Requests for Proposals Guidelines for 2002-2003, which established a competitive, annual process whereby Centers of Economic Excellence are proposed by the research institutions and approved by the Review Board. The three-tier review process includes two rigorous scientific evaluations (a technical review and an onsite panel review), followed by the Review Board’s analysis of the review findings and a formal vote on individual proposals. In 2008, the General Assembly amended the RCEE Act by encoding the technical and scientific review process for proposals.

Once a new Center is approved, an institution has 18 months in which to solicit non-state (private, federal, or municipal) investors to pledge dollar-for-dollar matching of a Center's total state award (between $\$ 2$ million to $\$ 5$ million). In February 2007, the SmartState Review Board approved a policy whereby an institution may apply for up to two six-month extensions beyond the 18-month pledge verification deadline. All matching pledges must be realized within 78 months of a Center's approval date. In February 2009, the SmartState Review Board approved a policy whereby an institution may apply for as many as two six-month extensions beyond the 78-month drawdown deadline.

State funds may only be drawn against perfected (eligible and received) non-state pledges. The majority of funds (all of the state funds plus no less than $30 \%$ of the nonstate match) are placed in endowment, which may be used to pay the salaries or salary supplements of the world-class scientists (endowed chairs) specially recruited to lead each Center, as well as to pay for the purchase of specialized equipment, laboratory construction, other faculty, and research assistants. In 2008, the General Assembly amended the RCEE Act by encoding the use of a certain portion (determined by the

SmartState Review Board) of non-state matching funds "to pay for initial operating costs" of Centers (S.C. 2-75-100).

On December 12, 2006, the SmartState Review Board convened a Cost Share Work Group. Representatives from all three research institutions, the Office of the State Treasurer, and CHE gathered to discuss accounting standards related to the RCEE Act. On February 26, 2007, the Review Board approved a Cost Share Accounting Policy which contains specific guidelines for claiming and valuing in-kind matches. In 2008, the General Assembly amended the RCEE Act to encode the use of cash equivalent and inkind donations as valid non-state matches for the SmartState Program.

In 2010, the General Assembly amended the RCEE act to create a new type of SmartState award to be made in concert with the South Carolina Department of Commerce. Onequarter of the unallocated Centers of Excellence Matching Endowment funds were dedicated for funding such "SmartState Commerce Awards." SmartState Commerce Awards may not individually exceed $\$ 2$ million and do not require the dollar-for-dollar, non-state match of standard SmartState awards. In place of the matching requirement, the Secretary of Commerce is required to certify that a "significant capital investment" has been made in the related research field of the proposed SmartState Commerce Award professorial endowment. These revisions became effective January 1, 2011. The SmartState Review Board issued an RFP for awards in FY 2011. However, the Department of Commerce has not recommended awards from this component of the SmartState Program.

Over time, each research institution has developed concentrated SmartState focus areas. Clemson University's core strengths lie in the area of automotive and transportation technology, advanced materials and biotechnology/biomedical sciences. USC’s Centers generally fall within three clusters: future fuels, biomedical sciences, and nanotechnology. MUSC's strengths lie in the areas of neuroscience, cancer research, vascular disease, and health care quality and finance.

One hallmark of the SmartState Program is an almost unprecedented scientific collaboration at the academic level. More than one-third of the Centers are partnerships between and among state public institutions, including three four-year comprehensive teaching universities. Dr. John Schaefer, SmartState Endowed Chair at MUSC’s Clinical Effectiveness and Patient Safety Center has noted that such academic collaboration rarely
exists—not even at Harvard or Yale. The lure of bonded research partnerships serves as an enticing recruiting tool to the renowned scientists required to lead each Center.

## 2012-13 SmartState Summary Information

At the end of FY2013, the program consists of 51 Centers with 89 approved SmartState Endowed Chairs of which 44 have been appointed. As envisioned by the General Assembly, the SmartState Program has become a successful boost to the state's knowledge-based economy. Of the $\$ 197.6$ million $^{2}$ in SmartState awards granted by the Board through the end of FY 2013, $\$ 197.6$ million in matching pledges have been committed by non-state sources. Of the committed pledges, $\$ 185.2$ million have been perfected and drawn down (including \$5,599,600 pending a positive recommendation from the Joint Other Funds Oversight Committee).

The table found on the following pages provides summary information on the Centers from fiscal year 2002-03 through FY 2012-13.

[^2]

## SmartState

SC Centers of Economic Excellence

## Summary of Approved SmartState Program Centers of Economic Excellence by Fiscal (Funding) Year (2002-03 - 2012-13)

| Funding Year 2002-2003 |  |  |  |
| :---: | :---: | :---: | :---: |
| Institution (fiscal institution first) | Proposal Title | Endowed Chairs | Proposal <br> Amount |
| Clemson | Automotive Systems Integration | 1 | \$5 million |
| Clemson | Automotive Manufacturing | 1 | \$5 million |
| USC | Nanostructures | 1 | \$4 million |
| USC/MUSC | Brain Imaging | 3* | \$5 million |
| MUSC | Proteomics | 2 | \$4 million |
| MUSC | Neuroscience | 3 | \$3 million |
| MUSC/USC/CoC | Marine Genomics | 3** | \$4 million |
| Total Awarded in 2002-2003 |  | 14 | \$30 million |
| Funding Year 2003-2004 |  |  |  |
| Institution (fiscal institution first) | Proposal Title | Endowed Chairs | Proposal Amount |
| Clemson | Automotive Design \& Development | 1 | \$5 million |
| Clemson | Electronic Systems Integration | 1 | \$3 million |
| Clemson | Photonic Materials | 1 | \$5 million |
| USC | Polymer Nanocomposites | 1 | \$3.5 million |
| USC | Hydrogen Economy I *** | 2 | \$2.5 million |
| MUSC/Clemson/USC | Regenerative Medicine | 3 | \$5 million |
| MUSC/USC | Translational Cancer Therapeutics | 2 | \$5 million |
| Total Awarded in 2003-2004 |  | 11 | \$29 million |
| Funding Year 2004-2005 |  |  |  |
| Institution (fiscal institution first) | Proposal Title | Endowed Chairs | Proposal Amount |
| Clemson | Restoration [WITHDRAWN] | - | [\$3 million] |
| Clemson | Electron Imaging [WITHDRAWN] | - | [\$5 million] |
| USC | Catalysis for Renewable Fuels | 1 | \$3 million |
| USC | Hydrogen Economy II*** | [See 03-04.] | \$2.5 million |
| USC/Coastal Carolina | Tourism \& Economic Development |  | \$2 million |
| MUSC | Gastrointestinal Cancer Diagnostics | 2** | \$5 million |
| MUSC/USC | Cancer Drug Discovery | 4 | \$5 million |
| MUSC/USC | Vision Science | 3 | \$4.5 million |
| Total Awarded in 2004-2005 |  | 11 | \$22 million |

* Revised to three chairs by act of the SmartState Review Board on January 12, 2009.
** Revised to three chairs by act of the SmartState Review Board on February 23, 2010.
*** The Hydrogen Economy Center of Economic Excellence was approved during 2003-2004. Funding for one half of this Center was provided in 2003-04, the other half in 2004-2005.
$\dagger$ Increased from one to two by act of the SmartState Review Board on September 8, 2008.

| Funding Year 2005-2006 |  |  |  |
| :--- | :--- | :---: | :---: |
| Institution <br> (fiscal institution first) | Proposal Title | Endowed <br> Chairs | Proposal <br> Amount |
| Clemson | Supply Chain Optimization \& Logistics | 1 | $\$ 2$ million |
| Clemson | Urban Ecology and Restoration | 1 | $\$ 2$ million |
| Clemson | Advanced Fiber-Based Materials | 1 | $\$ 4$ million |
| Clemson | Molecular Nutrition [WITHDRAWN] | - | $[\$ 2$ million] |
| USC | Solid Oxide Fuel Cells | 1 | $\$ 3$ million |
| USC/MUSC | Childhood Neurotherapeutics | 3 | $\$ 5$ million |
| MUSC | Molecular Proteomics in Cardiovascular <br> Disease \& Prevention | 2 | $\$ 5$ million |
| MUSC/USC | Clinical Effectiveness \& Patient Safety* | 3 | $\$ 5$ million |
| Total Awarded in 2005-2006 | $\mathbf{1 2}$ | $\$ \mathbf{2 6}$ million |  |


| Funding Year 2006-2007 |  |  |  |
| :--- | :--- | :---: | :---: |
| Institution <br> (fiscal institution first) | Proposal Title | Endowed <br> Chairs | Proposal <br> Amount |
| Clemson/MUSC | Health Facilities Design \& Testing** | 2 | \$2 million |
| USC | Rehabilitation and Reconstruction <br> Science | 1 | $\$ 5$ million |
| USC | Strategic Approaches to <br> the Generation of Electricity | 1 | $\$ 5$ million |
| USC/MUSC/Clemson | Healthcare Quality | 2 | $\$ 5$ million |
| USC/Clemson | Senior SMART ${ }^{\text {TM }}$ Center *** | 3 | $\$ 5$ million |
| MUSC | Tobacco-Related Malignancy | 2 | $\$ 5$ million |
| MUSC/USC | Stroke | 3 | $\$ 5$ million |
| Total Awarded in 2006-2007 |  | $\mathbf{1 4}$ | \$32 million |

On September 9, 2008, the SmartState Review Board approved a revision to this proposal which relinquished Clemson University as a collaborative partner and transferred the Chair at Clemson to MUSC.
** The state award total for this Center was revised from $\$ 5$ million to $\$ 2$ million by the SmartState Review Board on June 11, 2012.
*** The SeniorSMART Center of Economic Excellence was approved in 2007-2008. Funding was provided from 2006-2007 dollars.

## SC Centers of Economic Excellence Funded Proposals (continued)

| Funding Year 2007-2008 |  |  |  |
| :---: | :---: | :---: | :---: |
| Institution (fiscal institution first) | Proposal Title | Endowed Chairs | Proposal <br> Amount |
| Clemson | Optoelectronics | 1 | \$2 million |
| Clemson | CyberInstitute | 1 | \$2 million |
| USC | Environmental Nanoscience and Risk | 1 | \$3 million |
| USC | Nuclear Science and Energy | 1 | \$3 million |
| MUSC | Renal Disease Biomarker | 2 | \$5 million |
| MUSC/Clemson | Cancer Stem Cell Biology | 2 | \$5 million |
| MUSC/USC/Clemson | Advanced Tissue Biofabrication | 3 | \$5 million |
| MUSC/USC/SCSU | Cancer Disparities* | 3 | \$3.6 million |
| MUSC/USC | Medication Safety \& Efficacy* | 1 | \$2 million |
| Total Awarded in 2007-2008 |  | 15 | \$30.6 million |
| Funding Year 2008-2009 |  |  |  |
| $\begin{gathered} \text { Institution } \\ \text { (fiscal institution first) } \\ \hline \end{gathered}$ | Proposal Title | Endowed Chairs | Proposal Amount |
| Clemson | Tissue Systems Characterization [WITHDRAWN] | - | [\$3 million] |
| USC | General Atomics Center for Development of Transformational Nuclear Technologies | 1 | \$3 million |
| USC/MUSC | Healthful Lifestyles** | 2 | \$3 million |
| MUSC | Lipidomics, Pathobiology and Therapy | 2 | \$5 million |
| Total Awarded in 2008-2009 |  | 5 | \$11 million |
| Funding Year 2009-2010 |  |  |  |
| Institution (fiscal institution first) | Proposal Title | Endowed Chairs | Proposal Amount |
| Clemson | Sustainable Development | 1 | \$4 million |
| USC | Data Analysis | 1 | \$2 million |
| MUSC | Inflammation and Fibrosis Research | 2 | \$5 million |
| Total Awarded in 2009-2010 |  | 4 | \$11 million |

* The Cancer Disparities Center of Economic Excellence and the Medication Safety \& Efficacy Center of Economic Excellence were approved in 2008-2009. Funding was provided from 2007-2008 dollars.
** The Healthful Lifestyles Center of Economic Excellence was approved in 2009-2010 with funding from 2008-2009 dollars.


## SC Centers of Economic Excellence Funded Proposals (continued)

| Funding Year 2012-2013 |  |  |  |
| :--- | :--- | :---: | :---: |
| Institution <br> (fiscal institution first) | Proposal Title | Endowed <br> Chairs | Proposal <br> Amount |
| Clemson | Smart Grid Technology | 1 | $\$ 2$ million |
| USC | Multiphysics of Heterogeneous <br> Engineered Functional Materials and <br> structures | 1 | $\$ 2$ million |
| MUSC | Translational Biomedical <br> Informatics | 1 | $\$ 2$ million |
| Total Awarded in 2012-2013 | $\mathbf{3}$ | $\mathbf{\$ 6}$ million |  |


| Program Totals $^{\mathbf{1}}$ |  |
| :--- | :---: |
| TOTAL LOTTERY APPROPRIATIONS (2003-2008) | $\$ 180$ million |
| ACCRUED PROGRAM INTEREST USED FOR ADDITIONAL AWARDS * <br> * As permitted by S.C. 2-75-30(A). | $\$ 17.6$ million |
| TOTAL FUNDS AWARDED (2003-2013) | $\$ 197.6$ million |


| Research Institution Totals |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Institution | Centers <br> Awarded | Chairs <br> Created | Chairs Appointed <br> (Remaining to be Apptd) | State Funds Drawn |
| Clemson <br> University | 13 | 16 | $6(10)$ | $\$ 41,000,000$ |
| University of <br> South Carolina | 18 | 30 | $18(12)$ | $\$ 58,830,553$ |
| Medical <br> University of <br> South Carolina | 20 | 43 | $20(23)$ | $\$ 79,843,600$ |
| TotaLs | 51 | 89 | $44(45)$ | $\$ 179,674,153$ |

[^3]
## INDEPENDENT AUDITOR'S REPORT

To the Review Board<br>South Carolina Centers of Economic Excellence<br>Columbia, South Carolina

We have audited the statements of program revenues and expenditures of the South Carolina Centers of Economic Excellence (the Program) for the year ended June 30, 2013, as listed in the index. These financial statements are the responsibility of the Program's management. Our responsibility is to express an opinion on these financial statements based on our audit.

## Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

## Auditor's Responsibility

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial presentation. We believe that our audit provides a reasonable basis for our opinion.

## Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the program revenues and expenditures of the South Carolina Centers of Economic Excellence for the year ended June 30, 2013, in conformity with accounting principles generally accepted in the United States of America.

## Other Reporting Required by Government Auditing Standards

In accordance with Government Auditing Standards, we have also issued a report dated November 29, 2013, on our consideration of the Program's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grants. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be read in conjunction with this report in considering the results of our audit.

To the Review Board
South Carolina Centers of Economic Excellence
Page 2

## Other Matter

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 2 through 9 be presented to supplement the basic financial statements. Such information, although not a required part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

## Munich, -stable Stich, L LP

November 29, 2013
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
PROGRAM REVENUES AND EXPENDITURES - CONSOLIDATED SUMMARY
YEAR ENDING JUNE 30, 2013

|  | Clemson University |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | 705,201 | \$ | - | \$ | - | \$ | - | \$ | 705,201 |
| Non-state matching funds |  | - |  | 335,726 |  | 11,070 |  | 280,585 |  | 627,381 |
| Total contribution revenue |  | 705,201 |  | 335,726 |  | 11,070 |  | 280,585 |  | 1,332,582 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 761,954 |  | 761,954 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 7,427,582 |  | 7,427,582 |
| Endowment income |  | - |  | - |  | - |  | 429,081 |  | 429,081 |
| Total investment income (loss) |  | - |  | - |  | - |  | 8,618,617 |  | 8,618,617 |
| Total revenue |  | 705,201 |  | 335,726 |  | 11,070 |  | 8,899,202 |  | 9,951,199 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 486,909 |  | 486,909 |
| Fringe |  | - |  | - |  | - |  | 133,713 |  | 133,713 |
| Travel |  | - |  | - |  | - |  | 58,745 |  | 58,745 |
| Supplies |  | - |  | - |  | - |  | - |  | - |
| Contractual |  | - |  | - |  | - |  | - |  | - |
| Tuition assistance |  | - |  | - |  | - |  | - |  | - |
| Fixed charges |  | - |  | - |  | - |  | - |  | - |
| Indirect cost recovery |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | - |  | - |  | - |
| Other |  | - |  | - |  | 21,767 |  | 700,095 |  | 721,862 |
| Facilities |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | 63,500 |  | 63,500 |
| Total expenditures |  | - |  | - |  | 21,767 |  | 1,442,962 |  | 1,464,729 |
| Program net income (loss) |  | 705,201 |  | 335,726 |  | $(10,697)$ |  | 7,456,240 |  | 8,486,470 |
| Transfers |  | - |  | $(461,667)$ |  | - |  | $(149,517)$ |  | $(611,184)$ |
| Cumulative Program Net Income |  |  |  |  |  |  |  |  |  |  |
| Beginning |  | 40,294,799 |  | 33,546,877 |  | 699,288 |  | 7,538,543 |  | 82,079,507 |
| Ending | \$ | 41,000,000 | \$ | 33,420,936 | \$ | 688,591 | \$ | 14,845,266 | \$ | 89,954,793 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
PROGRAM REVENUES AND EXPENDITURES - CONSOLIDATED SUMMARY
YEAR ENDING JUNE 30, 2013
YEAR ENDING JUNE 30, 2013

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30,2013

|  | Automotive Design and Development |  |  |  |  |  |  |  |  |  | Automotive Manufacturing Integration |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue State funds |  | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 79,507 |  | 79,507 |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 79,507 |  | 79,507 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 82,704 |  | 82,704 |  | - |  | - |  | - |  | 110,662 |  | 110,662 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 826,288 |  | 826,288 |  | - |  | - |  | - |  | 1,022,502 |  | 1,022,502 |
| Endowment income |  | - |  | - |  | - |  | 46,795 |  | 46,795 |  | - |  | - |  | - |  | 57,387 |  | 57,387 |
| Total investment income (loss) |  | - |  | - |  | - |  | 955,787 |  | 955,787 |  | - |  | - |  | - |  | 1,190,551 |  | 1,190,551 |
| Total revenue |  | - |  | - |  | - |  | 955,787 |  | 955,787 |  | - |  | - |  | - |  | 1,270,058 |  | 1,270,058 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 55,329 |  | 55,329 |  | - |  | - |  | - |  | 87,002 |  | 87,002 |
| Fringe |  | - |  | - |  | - |  | 15,349 |  | 15,349 |  | - |  | - |  | - |  | 24,586 |  | 24,586 |
| Travel |  | - |  | - |  | - |  | 7,329 |  | 7,329 |  | - |  | - |  | - |  | 8,113 |  | 8,113 |
| Other |  | - |  | - |  | - |  | 21,505 |  | 21,505 |  | - |  | - |  | - |  | 237,366 |  | 237,366 |
| Equipment |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 63,500 |  | 63,500 |
| Total expenses |  | - |  | - |  | - |  | 99,512 |  | 99,512 |  | - |  | - |  | - |  | 420,567 |  | 420,567 |
| Program net income (loss) |  | - |  | - |  | - |  | 856,275 |  | 856,275 |  | - |  | - |  | - |  | 849,491 |  | 849,491 |
| Transfers |  | - |  | $(461,667)$ |  | - |  | $(105,311)$ |  | $(566,978)$ |  | - |  | - |  | - |  | - |  | - |
| Cumulative Program Net Income Beginning |  | 5,000,000 |  | 3,307,658 |  | - |  | 666,527 |  | 8,974,185 |  | 5,000,000 |  | 5,000,000 |  | - |  | 1,067,107 |  | 11,067,107 |
| Ending |  | 5,000,000 | \$ | 2,845,991 | \$ | - | \$ | 1,417,491 | \$ | 9,263,482 | \$ | 5,000,000 | \$ | 5,000,000 | \$ | - | \$ | 1,916,598 | \$ | 11,916,598 |



82,704
82,704
$\begin{array}{rr}82,704 \\ 826,288 & \mathbf{8 2 6 , 2 8 8} \\ 46,795 \\ & \mathbf{4 6 , 7 9 5} \\ \end{array}$


| $\infty$ |
| :---: |
| 0 |
| 0 |
| $\stackrel{0}{0}$ |
|  |


 $\begin{array}{r}87,002 \\ 24,586 \\ 8,113 \\ 237,366 \\ 63,500 \\ \hline 420,567 \\ \hline\end{array}$

849,491




[^4]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

\[

$$
\begin{array}{rlr}
227,892 & & 227,892 \\
61,777 & & 61,777 \\
28,355 & & 28,355 \\
346,878 & & 346,878 \\
- & & - \\
\cline { 1 - 1 } & & 664,902 \\
\cline { 1 - 1 } & & \\
\hline 764,430 & & 764,430
\end{array}
$$
\]

| Optical Materials |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
|  | - |  | - |  | 9,369 |  | - |  | 9,369 |
|  | - |  | - |  | 9,369 |  | - |  | 9,369 |
|  | - |  | - |  | - |  | 74,597 |  | 74,597 |
|  | - |  | - |  | - |  | 694,682 |  | 694,682 |
|  | - |  | - |  | - |  | 47,004 |  | 47,004 |
|  | - |  | - |  | - |  | 816,283 |  | 816,283 |
|  | - |  | - |  | 9,369 |  | 816,283 |  | 825,652 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  |  |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | 18,737 |  | - |  | 18,737 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | 18,737 |  | - |  | 18,737 |
|  | - |  | - |  | $(9,368)$ |  | 816,283 |  | 806,915 |
|  | - |  | - |  | - |  | - |  | - |
| 5,000,000 |  | 3,050,852 |  |  | 23,752 |  | 1,014,318 |  | 9,088,922 |
| \$ | 5,000,000 | \$ | 3,050,852 | \$ | 14,384 | \$ | 1,830,601 | \$ | 9,895,837 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

[^5]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30,2013

|  | Vehicle Electronic Systems |  |  |  |  |  |  |  |  |  | Supply Chain Optimization and Logistics |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State dowment | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | 34,696 |  | 34,696 |  | - |  | - |  | - |  | - |  | - |
| Total contribution revenue |  | - |  | - |  | - |  | 34,696 |  | 34,696 |  | - |  | - |  | - |  | - |  | - |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 50,405 |  | 50,405 |  | - |  | - |  | - |  | 42,441 |  | 42,441 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 506,958 |  | 506,958 |  | - |  | - |  | - |  | 386,247 |  | 386,247 |
| Endowment income |  | - |  | - |  | - |  | 29,453 |  | 29,453 |  | - |  | - |  | - |  | 21,519 |  | 21,519 |
| Total investment income (loss) |  | - |  | - |  | - |  | 586,816 |  | 586,816 |  | - |  | - |  | - |  | 450,207 |  | 450,207 |
| Total revenue |  | - |  | - |  | - |  | 621,512 |  | 621,512 |  | - |  | - |  | - |  | 450,207 |  | 450,207 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 103,874 |  | 103,874 |  | - |  | - |  | - |  | - |  | - |
| Fringe |  | - |  | - |  | - |  | 27,875 |  | 27,875 |  | - |  | - |  | - |  | - |  | - |
| Travel |  | - |  | - |  | - |  | 12,830 |  | 12,830 |  | - |  | - |  | - |  | - |  | - |
| Other |  | - |  | - |  | - |  | 73,106 |  | 73,106 |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Total expenses |  | - |  | - |  | - |  | 217,685 |  | 217,685 |  | - |  | - |  | - |  | - |  | - |
| Program net income (loss) |  | - |  | - |  | - |  | 403,827 |  | 403,827 |  | - |  | - |  | - |  | 450,207 |  | 450,207 |
| Transfers |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Cumulative Program Net Income Beginning |  | 3,000,000 |  | 2,000,000 |  | - |  | 491,818 |  | 5,491,818 |  | 2,000,000 |  | 2,000,000 |  | - |  | 83,156 |  | 4,083,156 |
| Ending | \$ | 3,000,000 | \$ | 2,000,000 | \$ | - | \$ | 895,645 | \$ | 5,895,645 | \$ | 2,000,000 | \$ | 2,000,000 | \$ | - | \$ | 533,363 | \$ | 4,533,363 |

[^6]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

449,462


|  | 65,489 |
| :--- | ---: |
| $\$ \quad 514,951$ |  |

- 
- 
- 
- 
- 
- 
- 




| Urban Ecology and Restoration |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 43,092 |  | 43,092 |
|  | - |  | - |  | - |  | 385,086 |  | 385,086 |
|  | - |  | - |  | - |  | 21,284 |  | 21,284 |
|  | - |  | - |  | - |  | 449,462 |  | 449,462 |
|  | - |  | - |  | - |  | 449,462 |  | 449,462 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 449,462 |  | 449,462 |
|  | - |  | - |  | - |  | - |  | - |
| 2,000,000 |  | 2,000,000 |  | - |  | 65,489 |  | 4,065,489 |  |
| \$ | 2,000,000 | \$ | 2,000,000 | \$ | - | \$ | 514,951 | \$ | 4,514,951 |

Investment Income
Realized gain (loss)
Unrealized gain (loss)
Endowment income
Total investment income (loss)
Total investment income (loss)
Total revenue
Total revenue
Expenditures
Personal services
Fringe
Travel
Other
Equipment
Program net income (loss)
Transfers
Cumulative Program Net Income
Ending

[^7]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013


[^8]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Cyber-Institute |  |  |  |  |  |  |  |  |  | Sustainable Development |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State dowment | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |  |  | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |  | - |  | 110,226 |  | - |  | - |  | 110,226 |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |  | - |  | 110,226 |  | - |  | - |  | 110,226 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 27,389 |  | 27,389 |  | - |  | - |  | - |  | 66,812 |  | 66,812 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 287,136 |  | 287,136 |  | - |  | - |  | - |  | 732,283 |  | 732,283 |
| Endowment income |  | - |  | - |  | - |  | 17,191 |  | 17,191 |  | - |  | - |  | - |  | 38,518 |  | 38,518 |
| Total investment income (loss) |  | - |  | - |  | - |  | 331,716 |  | 331,716 |  | - |  | - |  | - |  | 837,613 |  | 837,613 |
| Total revenue |  | - |  | - |  | - |  | 331,716 |  | 331,716 |  | - |  | 110,226 |  | - |  | 837,613 |  | 947,839 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Fringe |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Travel |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Other |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Total expenses |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Program net income (loss) |  | - |  | - |  | - |  | 331,716 |  | 331,716 |  | - |  | 110,226 |  | - |  | 837,613 |  | 947,839 |
| Transfers |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Cumulative Program Net Income Beginning |  | 2,000,000 |  | 1,088,996 |  | 500,000 |  | 47,546 |  | 3,636,542 |  | 4,000,000 |  | 2,835,072 |  | - |  | 201,676 |  | 7,036,748 |
| Ending | \$ | 2,000,000 | \$ | 1,088,996 | \$ | 500,000 | \$ | 379,262 | \$ | 3,968,258 | \$ | 4,000,000 | \$ | 2,945,298 | \$ | - | \$ | 1,039,289 | \$ | 7,984,587 |

[^9]SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Total - Clemson University |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | StateEndowment |  | Non-State Endowment |  | Non-State <br> Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | 705,201 | \$ | - | \$ | - | \$ | - | \$ | 705,201 |
| Non-state matching funds |  | - |  | 335,726 |  | 11,070 |  | 280,585 |  | 627,381 |
| Total contribution revenue |  | 705,201 |  | 335,726 |  | 11,070 |  | 280,585 |  | 1,332,582 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  |  |  | - |  | 761,954 |  | 761,954 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 7,427,582 |  | 7,427,582 |
| Endowment income |  | - |  | - |  | - |  | 429,081 |  | 429,081 |
| Total investment income (loss) |  | - |  | - |  | - |  | 8,618,617 |  | 8,618,617 |
| Total revenue |  | 705,201 |  | 335,726 |  | 11,070 |  | 8,899,202 |  | 9,951,199 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 486,909 |  | 486,909 |
| Fringe |  | - |  | - |  | - |  | 133,713 |  | 133,713 |
| Travel |  | - |  | - |  | - |  | 58,745 |  | 58,745 |
| Other |  | - |  | - |  | 21,767 |  | 700,095 |  | 721,862 |
| Equipment |  | - |  | - |  | - |  | 63,500 |  | 63,500 |
| Total expenses |  | - |  | - |  | 21,767 |  | 1,442,962 |  | 1,464,729 |
| Program net income (loss) |  | 705,201 |  | 335,726 |  | $(10,697)$ |  | 7,456,240 |  | 8,486,470 |
| Transfers |  | - |  | $(461,667)$ |  | - |  | $(149,517)$ |  | $(611,184)$ |
| Cumulative Program Net Income Beginning |  | 40,294,799 |  | 33,546,877 |  | 699,288 |  | 7,538,543 |  | 82,079,507 |
| Ending | \$ | 41,000,000 | \$ | 33,420,936 | \$ | 688,591 | \$ | 14,845,266 | \$ | 89,954,793 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Proteomics |  |  |  |  |  |  |  |  |  | Neurosciences |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State ndowment | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  | State <br> Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |  | - |  | 350 |  | 567 |  | - |  | 917 |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |  | - |  | 350 |  | 567 |  | - |  | 917 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 134,680 |  | 134,680 |  | - |  | - |  | - |  | 103,589 |  | 103,589 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 452,033 |  | 452,033 |  | - |  | - |  | - |  | 343,620 |  | 343,620 |
| Endowment income |  | - |  | - |  | - |  | 43,996 |  | 43,996 |  | - |  | - |  | - |  | 33,655 |  | 33,655 |
| Total investment income (loss) |  | - |  | - |  | - |  | 630,709 |  | 630,709 |  | - |  | - |  | - |  | 480,864 |  | 480,864 |
| Total revenue |  | - |  | - |  | - |  | 630,709 |  | 630,709 |  | - |  | 350 |  | 567 |  | 480,864 |  | 481,781 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 35,469 |  | 35,469 |  | - |  | - |  | 7,828 |  | - |  | 7,828 |
| Fringe |  | - |  | - |  | - |  | 9,980 |  | 9,980 |  | - |  | - |  | 2,349 |  | - |  | 2,349 |
| Travel |  | - |  | - |  | - |  | 21,866 |  | 21,866 |  | - |  | - |  | - |  | - |  | - |
| Supplies |  | - |  | - |  | - |  | 28,261 |  | 28,261 |  | - |  | - |  | - |  | - |  | - |
| Contractual |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | - |  | 56,937 |  | 56,937 |  | - |  | - |  | 28 |  | 43,181 |  | 43,209 |
| Other |  | - |  | - |  | - |  | 10,510 |  | 10,510 |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | 27,510 |  | 27,510 |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | - |  | 190,533 |  | 190,533 |  | - |  | - |  | 10,205 |  | 43,181 |  | 53,386 |
| Program net income (loss) |  | - |  | - |  | - |  | 440,176 |  | 440,176 |  | - |  | 350 |  | $(9,638)$ |  | 437,683 |  | 428,395 |
| Transfers |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Cumulative Program Net Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ending | \$ | 4,000,000 | \$ | 1,254,266 | \$ | 791,789 | \$ | 850,021 | \$ | 6,896,076 | \$ | 3,000,000 | \$ | 900,350 | \$ | 702,021 | \$ | 760,963 | \$ | 5,363,334 |

See notes to financial statements.
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  |  |  |  |  | Mar | Genomic |  |  |  |  |  |  |  |  | en | rative Med |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | State ndowment |  | Non-State ndowment |  | -State endable |  | dowment arnings |  | Total |  | State dowment |  | Non-State dowment |  | on-State pendable |  | dowment arnings |  | Total |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 1,666,665 |  | - |  | 1,666,665 |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 1,666,665 |  | - |  | 1,666,665 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 96,321 |  | 96,321 |  | - |  | - |  | - |  | 65,029 |  | 65,029 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 555,289 |  | 555,289 |  | - |  | - |  | - |  | 315,007 |  | 315,007 |
| Endowment income |  | - |  | - |  | - |  | 109,291 |  | 109,291 |  | - |  | - |  | - |  | 465,918 |  | 465,918 |
| Total investment income (loss) |  | - |  | - |  | - |  | 760,901 |  | 760,901 |  | - |  | - |  | - |  | 845,954 |  | 845,954 |
| Total revenue |  | - |  | - |  | - |  | 760,901 |  | 760,901 |  | - |  | - |  | 1,666,665 |  | 845,954 |  | 2,512,619 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | 51,529 |  | 182,647 |  | 234,176 |  | - |  | - |  | 1,029,807 |  | - |  | 1,029,807 |
| Fringe |  | - |  | - |  | 15,202 |  | - |  | 15,202 |  | - |  | - |  | 150,284 |  | - |  | 150,284 |
| Travel |  | - |  | - |  | 1,862 |  | - |  | 1,862 |  | - |  | - |  | 11,212 |  | - |  | 11,212 |
| Supplies |  | - |  | - |  | 292 |  | 862 |  | 1,154 |  | - |  | - |  | 91,594 |  | - |  | 91,594 |
| Contractual |  | - |  | - |  | 16,400 |  | - |  | 16,400 |  | - |  | - |  | 8,488 |  | - |  | 8,488 |
| Administrative fees |  | - |  | - |  | - |  | 53,527 |  | 53,527 |  | - |  | - |  | 27,778 |  | 34,015 |  | 61,793 |
| Other |  | - |  | - |  | 20 |  | - |  | 20 |  | - |  | - |  | 9,600 |  | - |  | 9,600 |
| Facilities |  | - |  | - |  | - |  | 13,266 |  | 13,266 |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 40,232 |  | - |  | 40,232 |
| Total expenditures |  | - |  | - |  | 85,305 |  | 250,302 |  | 335,607 |  | - |  | - |  | 1,368,995 |  | 34,015 |  | 1,403,010 |
| Program net income (loss) |  | - |  | - |  | $(85,305)$ |  | 510,599 |  | 425,294 |  | - |  | - |  | 297,670 |  | 811,939 |  | 1,109,609 |
| Transfers |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 277,583 |  | $(277,583)$ |  | - |
| Cumulative Program Net Income Beginning |  | 4,000,000 |  | 1,500,000 |  | 300,878 |  | 701,833 |  | 6,502,711 |  | 5,000,000 |  | 2,000,000 |  | 193,856 |  | 533,768 |  | 7,727,624 |
| Ending | \$ | 4,000,000 | \$ | 1,500,000 | \$ | 215,573 | \$ | 1,212,432 | \$ | 6,928,005 | \$ | 5,000,000 | \$ | 2,000,000 | \$ | 769,109 | \$ | 1,068,124 | \$ | 8,837,233 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES YEAR ENDING JUNE 30, 2013


201,019 201,019

-

$\begin{array}{r}183,720 \\ 616,792 \\ 59,977 \\ \hline 860,489 \\ \hline 860,489 \\ \hline\end{array}$
$\begin{array}{r}201,019 \\ 44,808 \\ 1,523 \\ - \\ \hline 77,706 \\ 164 \\ - \\ - \\ \hline 325,220 \\ \hline 535,269\end{array}$





| N |
| :---: |
| $\stackrel{\mathrm{N}}{\mathrm{J}}$ |



$860,489 \longrightarrow \quad \mathbf{8 6 0 , 4 8 9}$ Contribution Revenue
State funds
Non-state matching funds
Total contribution revenue Investment Income
Realized gain (loss) Realized gain (loss)
Unrealized gain (loss)
Unrealized gain (loss) Total investment income (loss)
Total revenue
Expenditures
Personal services
Fringe
Travel
Supplies
Contractual
Administrative fees
Other
Facilities
Equipment
Total expenditures
Program net income (loss)
Transfers
Cumulative Program Net Income
Beginning
Ending
See notes to financial statements.
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE MEDICAL UNIVERSITY OF SOUTH CAROLINA YEAR ENDING JUNE 30, 2013

|  | Gastrointestinal Cancer Diagnostics |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 185,200 |  | 185,200 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 615,576 |  | 615,576 |
| Endowment income |  | - |  | - |  | - |  | 60,100 |  | 60,100 |
| Total investment income (loss) |  | - |  | - |  | - |  | 860,876 |  | 860,876 |
| Total revenue |  | - |  | - |  | - |  | 860,876 |  | 860,876 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | 128,903 |  | - |  | 128,903 |
| Fringe |  | - |  | - |  | 38,671 |  | - |  | 38,671 |
| Travel |  | - |  | - |  | - |  | - |  | - |
| Supplies |  | - |  | - |  | - |  | - |  | - |
| Contractual |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | - |  | 77,228 |  | 77,228 |
| Other |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | 167,574 |  | 77,228 |  | 244,802 |
| Program net income (loss) |  | - |  | - |  | $(167,574)$ |  | 783,648 |  | 616,074 |
| Transfers |  | - |  | - |  | 310,743 |  | $(310,743)$ |  | - |
| Cumulative Program Net Income Beginning |  | 5,000,000 |  | 2,000,000 |  | 316,470 |  | 803,108 |  | 8,119,578 |
| Ending | \$ | 5,000,000 | \$ | 2,000,000 | \$ | 459,639 | \$ | 1,276,013 | \$ | 8,735,652 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES YEAR ENDING JUNE 30, 2013








|  | Clinical Effectiveness and Patient Safety |  |  |  |  |  |  |  |  |  | Molecular Proteomics in Cardiovascular Disease and Prevention |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | Endowment Earnings |  | Total |  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | Endowment Earnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | 221,505 | \$ | - | \$ | - | \$ | - | \$ | 221,505 |
| Non-state matching funds |  | - |  | - |  | - |  | - |  | - |  | - |  | 222,801 |  | - |  | - |  | 222,801 |
| Total contribution revenue |  | - |  | - |  | - |  | - |  | - |  | 221,505 |  | 222,801 |  | - |  | - |  | 444,306 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 182,614 |  | 182,614 |  | - |  | - |  | - |  | 324,758 |  | 324,758 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 607,932 |  | 607,932 |  | - |  | - |  | - |  | 1,072,840 |  | 1,072,840 |
| Endowment income |  | - |  | - |  | - |  | 59,431 |  | 59,431 |  | - |  | - |  | - |  | 105,167 |  | 105,167 |
| Total investment income (loss) |  | - |  | - |  | - |  | 849,977 |  | 849,977 |  | - |  | - |  | - |  | 1,502,765 |  | 1,502,765 |
| Total revenue |  | - |  | - |  | - |  | 849,977 |  | 849,977 |  | 221,505 |  | 222,801 |  | - |  | 1,502,765 |  | 1,947,071 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | 66,401 |  | 66,401 |  | - |  | - |  | 30,440 |  | - |  | 30,440 |
| Fringe |  | - |  | - |  | - |  | 14,410 |  | 14,410 |  | - |  | - |  | 9,132 |  | - |  | 9,132 |
| Travel |  | - |  | - |  | - |  | 6,854 |  | 6,854 |  | - |  | - |  | - |  | - |  | - |
| Supplies |  | - |  | - |  | - |  | 28,808 |  | 28,808 |  | - |  | - |  | - |  | 76,890 |  | 76,890 |
| Contractual |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | - |  | 76,444 |  | 76,444 |  | - |  | - |  | - |  | 57,587 |  | 57,587 |
| Other |  | - |  | - |  | - |  | 329 |  | 329 |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | - |  | 193,246 |  | 193,246 |  | - |  | - |  | 39,572 |  | 134,477 |  | 174,049 |
| Program net income (loss) |  | - |  | - |  | - |  | 656,731 |  | 656,731 |  | 221,505 |  | 222,801 |  | $(39,572)$ |  | 1,368,288 |  | 1,773,022 |
| Transfers |  | - |  | - |  | - |  | - |  | - |  | - |  | - |  | 215,498 |  | $(215,498)$ |  | - |
| Cumulative Program Net Income Beginning |  | 5,000,000 |  | 2,000,000 |  | - |  | 391,371 |  | 7,391,371 |  | 4,778,495 |  | 3,292,908 |  | 1,114,274 |  | 66,309 |  | 9,251,986 |
| Ending | \$ | 5,000,000 | \$ | 2,000,000 | \$ | - | \$ | 1,048,102 | \$ | 8,048,102 | \$ | 5,000,000 | \$ | 3,515,709 | \$ | 1,290,200 | \$ | 1,219,099 | \$ | 11,025,008 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE MEDICAL UNIVERSITY OF SOUTH CAROLINA YEAR ENDING JUNE 30, 2013

|  | Tobacco-Related Malignancy |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | 50,000 |  | 17,776 |  | - |  | 67,776 |
| Total contribution revenue |  | - |  | 50,000 |  | 17,776 |  | - |  | 67,776 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 195,579 |  | 195,579 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 647,882 |  | 647,882 |
| Endowment income |  | - |  | - |  | - |  | 63,231 |  | 63,231 |
| Total investment income (loss) |  | - |  | - |  | - |  | 906,692 |  | 906,692 |
| Total revenue |  | - |  | 50,000 |  | 17,776 |  | 906,692 |  | 974,468 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | 19,232 |  | - |  | 19,232 |
| Fringe |  | - |  | - |  | 5,770 |  | - |  | 5,770 |
| Travel |  | - |  | - |  | - |  | - |  | - |
| Supplies |  | - |  | - |  | - |  | - |  |  |
| Contractual |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | 889 |  | 83,838 |  | 84,727 |
| Other |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | 25,891 |  | 83,838 |  | 109,729 |
| Program net income (loss) |  | - |  | 50,000 |  | $(8,115)$ |  | 822,854 |  | 864,739 |
| Transfers |  | - |  | - |  | 431,054 |  | $(431,054)$ |  | - |
| Cumulative Program Net Income Beginning |  | 5,000,000 |  | 1,621,812 |  | 824,452 |  | 1,354,416 |  | 8,800,680 |
| Ending | \$ | 5,000,000 | \$ | 1,671,812 | \$ | 1,247,391 | \$ | 1,746,216 | \$ | 9,665,419 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Renal Disease Biomarker |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue State funds | \$ | 242,366 | \$ | - | \$ | - | \$ | - | \$ | 242,366 |
| Non-state matching funds |  | - |  | 22,200 |  | 201,549 |  | 2,000 |  | 225,749 |
| Total contribution revenue |  | 242,366 |  | 22,200 |  | 201,549 |  | 2,000 |  | 468,115 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 142,832 |  | 142,832 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 469,195 |  | 469,195 |
| Endowment income |  | - |  | - |  | - |  | 46,230 |  | 46,230 |
| Total investment income (loss) |  | - |  | - |  | - |  | 658,257 |  | 658,257 |
| Total revenue |  | 242,366 |  | 22,200 |  | 201,549 |  | 660,257 |  | 1,126,372 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | 43,811 |  | - |  | 43,811 |
| Fringe |  | - |  | - |  | 13,120 |  | - |  | 13,120 |
| Travel |  | - |  | - |  | 353 |  | - |  | 353 |
| Supplies |  | - |  | - |  | (78) |  | - |  | (78) |
| Contractual |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | 10,078 |  | 60,006 |  | 70,084 |
| Other |  | - |  | - |  | 1,144 |  | - |  | 1,144 |
| Facilities |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | 68,428 |  | 60,006 |  | 128,434 |
| Program net income (loss) |  | 242,366 |  | 22,200 |  | 133,121 |  | 600,251 |  | 997,938 |
| Transfers |  | - |  | - |  | 44,677 |  | $(44,677)$ |  | - |
| Cumulative Program Net Income Beginning |  | 4,315,735 |  | 1,370,377 |  | 589,967 |  | $(72,662)$ |  | 6,203,417 |
| Ending | \$ | 4,558,101 | \$ | 1,392,577 | \$ | 767,765 | \$ | 482,912 | \$ | 7,201,355 |

See notes to financial statements.
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Advanced Tissue Biofabrication |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | 300,000 |  | 47,130 |  | - |  | 347,130 |
| Total contribution revenue |  | - |  | 300,000 |  | 47,130 |  | - |  | 347,130 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 123,674 |  | 123,674 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 391,199 |  | 391,199 |
| Endowment income |  | - |  | - |  | - |  | 38,944 |  | 38,944 |
| Total investment income (loss) |  | - |  | - |  | - |  | 553,817 |  | 553,817 |
| Total revenue |  | - |  | 300,000 |  | 47,130 |  | 553,817 |  | 900,947 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | - |  | - |
| Fringe |  | - |  | - |  | - |  | - |  | - |
| Travel |  | - |  | - |  | - |  | - |  |  |
| Supplies |  | - |  | - |  | - |  | - |  | - |
| Contractual |  | - |  | - |  | - |  | - |  | - |
| Administrative fees |  | - |  | - |  | - |  | 49,743 |  | 49,743 |
| Other |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | 47,130 |  | - |  | 47,130 |
| Equipment |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | 47,130 |  | 49,743 |  | 96,873 |
| Program net income (loss) |  | - |  | 300,000 |  | - |  | 504,074 |  | 804,074 |
| Transfers |  | - |  | - |  | - |  | - |  | - |
| Cumulative Program Net Income Beginning |  | 4,060,571 |  | 600,000 |  | 75,000 |  | 43,162 |  | 4,778,733 |
| Ending | \$ | 4,060,571 | \$ | 900,000 | \$ | 75,000 | \$ | 547,236 | \$ | 5,582,807 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

|  | Prostate Cancer Disparities |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | StateEndowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| Contribution Revenue |  |  |  |  |  |  |  |  |  |  |
| State funds | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| Non-state matching funds |  | - |  | - |  | 1,052 |  | - |  | 1,052 |
| Total contribution revenue |  | - |  | - |  | 1,052 |  | - |  | 1,052 |
| Investment Income |  |  |  |  |  |  |  |  |  |  |
| Realized gain (loss) |  | - |  | - |  | - |  | 116,062 |  | 116,062 |
| Unrealized gain (loss) |  | - |  | - |  | - |  | 384,956 |  | 384,956 |
| Endowment income |  | - |  | - |  | - |  | 37,723 |  | 37,723 |
| Total investment income (loss) |  | - |  | - |  | - |  | 538,741 |  | 538,741 |
| Total revenue |  | - |  | - |  | 1,052 |  | 538,741 |  | 539,793 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Personal services |  | - |  | - |  | - |  | - |  | - |
| Fringe |  | - |  | - |  | - |  | - |  |  |
| Travel |  | - |  | - |  | - |  | - |  | - |
| Supplies |  | - |  | - |  | - |  | - |  | - |
| Contractual |  | - |  | - |  | 30,000 |  | - |  | 30,000 |
| Administrative fees |  | - |  | - |  | 53 |  | 48,374 |  | 48,427 |
| Other |  | - |  | - |  | - |  | - |  | - |
| Facilities |  | - |  | - |  | - |  | - |  | - |
| Equipment |  | - |  | - |  | - |  | - |  | - |
| Total expenditures |  | - |  | - |  | 30,053 |  | 48,374 |  | 78,427 |
| Program net income (loss) |  | - |  | - |  | $(29,001)$ |  | 490,367 |  | 461,366 |
| Transfers |  | - |  | - |  | 19,189 |  | $(19,189)$ |  | - |
| Cumulative Program Net Income Beginning |  | 3,600,000 |  | 1,080,000 |  | 8,457 |  | $(53,080)$ |  | 4,635,377 |
| Ending | \$ | 3,600,000 | \$ | 1,080,000 | \$ | $(1,355)$ | \$ | 418,098 | \$ | 5,096,743 |

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE MEDICAL UNIVERSITY OF SOUTH CAROLINA YEAR ENDING JUNE 30, 2013

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

| Nanostructures |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State Endowment |  | Non-State Endowment |  | Non-State Expendable |  | Endowment Earnings |  | Total |  |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 68,282 |  | 68,282 |
|  | - |  | - |  | - |  | 120,027 |  | 120,027 |
|  | - |  | - |  | - |  | 249,583 |  | 249,583 |
|  | - |  | - |  | - |  | 437,892 |  | 437,892 |
|  | - |  | - |  | - |  | 437,892 |  | 437,892 |
|  | - |  | - |  | - |  | 40,333 |  | 40,333 |
|  | - |  | - |  | - |  | 3,084 |  | 3,084 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | 1,329 |  | 36,497 |  | 37,826 |
|  | - |  | - |  | - |  | 16,597 |  | 16,597 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 21,728 |  | 21,728 |
|  | - |  | - |  | - |  | 791 |  | 791 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | 1,329 |  | 119,030 |  | 120,359 |
|  | - |  | - |  | $(1,329)$ |  | 318,862 |  | 317,533 |
|  | - |  | - |  | - |  | - |  | - |
|  | 4,000,000 |  | 1,633,005 |  | 1,329 |  | 937,562 |  | 6,571,896 |
| \$ | 4,000,000 | \$ | 1,633,005 | \$ | - | \$ | 1,256,424 | \$ | 6,889,429 |
















SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPEND PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013


| Polymer Nanocomposites |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State <br> Endowment |  | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
|  | - |  | 1,811 |  | - |  | - |  | 1,811 |
|  | - |  | 1,811 |  | - |  | - |  | 1,811 |
|  | - |  | - |  | - |  | 69,546 |  | 69,546 |
|  | - |  | - |  | - |  | 121,956 |  | 121,956 |
|  | - |  | - |  | - |  | 209,441 |  | 209,441 |
|  | - |  | - |  | - |  | 400,943 |  | 400,943 |
|  | - |  | 1,811 |  | - |  | 400,943 |  | 402,754 |
|  | - |  | - |  | - |  | 231,435 |  | 231,435 |
|  | - |  | - |  | - |  | 45,085 |  | 45,085 |
|  | - |  | - |  | - |  | 14,546 |  | 14,546 |
|  | - |  | - |  | - |  | 11,016 |  | 11,016 |
|  | - |  | - |  | - |  | 7,390 |  | 7,390 |
|  | - |  | - |  | - |  | 9,419 |  | 9,419 |
|  | - |  | - |  | - |  | 8,643 |  | 8,643 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 12,911 |  | 12,911 |
|  | - |  | - |  | - |  | 1,395 |  | 1,395 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 341,840 |  | 341,840 |
|  | - |  | 1,811 |  | - |  | 59,103 |  | 60,914 |
|  | - |  | $(10,208)$ |  | - |  | 10,208 |  | - |
| 3,500,000 |  | 1,431,538 |  |  | - |  | 209,367 |  | 5,140,905 |
| \$ 3,500,000 |  | \$ | 1,423,141 | \$ | - | \$ | 278,678 | \$ | 5,201,819 |

## 



SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPEND PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013







## 









SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPEND PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

| Solid Oxide Fuel Cells |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | State ndowment | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 5,665 |  | 5,665 |
|  | - |  | - |  | - |  | 9,724 |  | 9,724 |
|  | - |  | - |  | - |  | 175,031 |  | 175,031 |
|  | - |  | - |  | - |  | 190,420 |  | 190,420 |
|  | - |  | - |  | - |  | 190,420 |  | 190,420 |
|  | - |  | - |  | - |  | 46,687 |  | 46,687 |
|  | - |  | - |  | - |  | 7,304 |  | 7,304 |
|  | - |  | - |  | - |  | 1,374 |  | 1,374 |
|  | - |  | - |  | - |  | 8,101 |  | 8,101 |
|  | - |  | - |  | - |  | 19,663 |  | 19,663 |
|  | - |  | - |  | - |  | 9,402 |  | 9,402 |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | - |  | - |
|  | - |  | - |  | - |  | 1,785 |  | 1,785 |
|  | - |  | - |  | - |  | 26,392 |  | 26,392 |
|  | - |  | - |  | - |  | 23,245 |  | 23,245 |
|  | - |  | - |  | - |  | 143,953 |  | 143,953 |
|  | - |  | - |  | - |  | 46,467 |  | 46,467 |
|  | - |  | - |  | - |  | - |  | - |
|  | 3,000,000 |  | 900,000 |  | - |  | 332,223 |  | 4,232,223 |
| \$ | 3,000,000 | \$ | 900,000 | \$ | - | \$ | 378,690 | \$ | 4,278,690 |



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$\vdots$
$\vdots$
$\vdots$


Contribution Revenue
Non-state matching funds
Total contribution revenue

Cumulative Program Net Income
Ending
See notes to financial statements.
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30,2013

| Healthcare Quality |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| State Endowment | Non-State Endowment | Non-State Expendable | Endowment Earnings | Total |
| \$ | \$ | \$ | \$ - | \$ |
| - | - | 1,558,548 | - | 1,558,548 |
| - | - | 1,558,548 | - | 1,558,548 |



| $2,049,994$ |
| ---: |



















Contribution Revenue
Non-state matching funds
Total contribution revenue









| $1,558,548$ |
| :--- |






UNIVERSITY OF SOUTH CAROLINA -
SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE UNIVERSITY OF SOUTH CAROLINA
PROGRAM REVENUES AND EXPEND PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013
Nanoenvironmental Research and Risk Assessment

| Nanoenvironmental Research and Risk Assessment |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| State <br> Endowment | Non-State Endowment |  | Non-State Expendable |  | EndowmentEarnings |  | Total |  |
| \$ | \$ | - | \$ | - | \$ | - | \$ | - |
| - |  | - |  | 43,248 |  | - |  | 43,248 |
| - |  | - |  | 43,248 |  | - |  | 43,248 |
| - |  | - |  | - |  | 54,458 |  | 54,458 |
| - |  | - |  | - |  | 95,747 |  | 95,747 |
| - |  | - |  | - |  | 142,584 |  | 142,584 |
| - |  | - |  | - |  | 292,789 |  | 292,789 |
| - |  | - |  | 43,248 |  | 292,789 |  | 336,037 |
| - |  | - |  | 29,909 |  | 47,964 |  | 77,873 |
| - |  | - |  | 8,997 |  | 10,315 |  | 19,312 |
| - |  | - |  | 617 |  | 697 |  | 1,314 |
| - |  | - |  | 98 |  | - |  | 98 |
| - |  | - |  | 3,627 |  | 32,816 |  | 36,443 |
| - |  | - |  | - |  | - |  |  |
| - |  | - |  |  |  | - |  |  |
| - |  | - |  |  |  | - |  | - |
| - |  | - |  | - |  | 17,331 |  | 17,331 |
| - |  | - |  |  |  | - |  |  |
| - |  | - |  | - |  | - |  | - |
| - |  | - |  | 43,248 |  | 109,123 |  | 152,371 |
| - |  | - |  | - |  | 183,666 |  | 183,666 |
| - |  | - |  | - |  | - |  | - |
| 3,000,000 |  | 1,000,000 |  | 2,120 |  | 294,700 |  | 4,296,820 |
| \$ 3,000,000 | \$ | 1,000,000 | \$ | 2,120 | \$ | 478,366 | \$ | 4,480,486 |




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Contribution Revenue
Non-state matching funds
Total contribution revenue Investment Income
Realized gain (loss)
Unrealized gain (loss)
Endowment income
Total investment income (loss)
Total revenue
Total revenue
Expenditures
Fringe
Supplies
Contractual
Tuition assistance
Fixed charges
Indirect cost recovery
Administrative fees
Other
Equipmen
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SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
UNIVERSITY OF SOUTH CAROLINA UNIVERSITY OF SOUTH CAROLINA PROGRAM REVENUES AND EXPENDITURES
YEAR ENDING JUNE 30, 2013











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| :--- | :--- |
| 8 | 8 |
| 8 | 8 |
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Contribution Revenue
Non-state matching funds
Total contribution revenue



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$\underset{\sim}{\infty}$
$\underset{\sim}{\infty}$






$5,801,494$
$(5,192)$



$\begin{array}{r}950,602 \\ 1,635,070 \\ 2,917,706 \\ \hline 5,503,378 \\ \hline \\ \hline 5,554,778 \\ \hline\end{array}$


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Contribution Revenue
Non-state matching funds
Total contribution revenue
Investment Income
Realized gain (loss)
Unrealized gain (loss)
Endowment income
Total investment income (loss)
Total investment income (loss)
Total revenue
Total revenue
Expenditures
Fringe
Supplies
Contractual
Tuition assistance
Indirect cost recovery
Administrative fees
Other
Equipmen
Total expenditures
Program net income (loss)
Transfers

[^10]Ending

## SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE YEAR ENDED JUNE 30, 2013

## Notes to Financial Statements

## Note 1. Description of Program

The South Carolina Research Centers of Economic Excellence Act (the Act) was introduced by Chapter 75 of Act No. A356 and passed by the South Carolina General Assembly during the 2002 legislative session. The Act was established to create the South Carolina Centers of Economic Excellence (the Program or SmartState) and the Centers of Excellence Matching Endowment, which originally was to be funded annually by appropriations from the South Carolina Education Lottery in an aggregate amount not to exceed $\$ 200$ million by 2010. During the year ended June 30, 2009, the South Carolina General Assembly revised the Act to provide for $\$ 30$ million in guaranteed funding each year if (a) the lottery scholarships have been funded, and (b) at least $80 \%$ of all appropriations have been awarded by the Review Board through the most recent previous fiscal year. In addition, the Act created the Research Centers of Excellence Review Board (the Review Board), which is responsible for awarding state matching funds, for oversight and operation of the fund, and for various accountability requirements established in the statute for the Program. The Review Board consists of eleven members. Of these eleven members, three must be appointed by the Governor of South Carolina, three must be appointed by the President Pro Tempore of the South Carolina Senate, three must be appointed by the Speaker of the South Carolina House of Representatives, one member each must be appointed by the Chair of the Senate Finance Committee and the Chair of the House Ways and Means Committee. The Presidents of the senior research universities of the State of South Carolina (Clemson University, the Medical University of South Carolina, and the University of South Carolina) serve as ex-officio non-voting members.

The purpose of the Act is to create incentives for the senior research universities of South Carolina to raise capital from the private sector to fund endowments for professorships in research areas targeted to create well-paying jobs and enhanced economic opportunities for the people of South Carolina. Non-state funds are used to match dollar-for-dollar funds appropriated by the General Assembly from the South Carolina Education Lottery. The program's intent is to provide $\$ 30$ million annually in South Carolina Education Lottery appropriations if (a) the lottery scholarships have been funded, and (b) at least $80 \%$ of all appropriations have been awarded by the Review Board through the most recent previous fiscal year. These state appropriations are to be matched by the institutions.

The endowed professorships are awarded to the senior research universities through a competitive application process, which encourages collaboration among the three research universities as well as with other South Carolina institutions of higher education. Awards from the Centers of Excellence Matching Endowment are to be not less than $\$ 2$ million and not more than $\$ 5$ million. Non-state matching funds are to be raised exclusively from sources other than South Carolina tax dollars, and committed and raised subsequent to January 1, 2002. The Research Centers of Economic Excellence Act was amended March 17, 2004, adding Section 90, which allows the research institutions to use federal funds received after July 1, 2003, as non-state matching funds. The Research Centers of Economic Excellence Act was further amended on June 25, 2008, adding Section 100, which allows the Review Board to use a portion (as determined by the Review Board) of the non-state match to pay for Center operating costs and which requires that the full state award of any dissolved or withdrawn Center be returned to the Centers of Excellence Matching Endowment. Section 110 was also added on June 25,2008 , which provided the eligibility of in-kind contributions as non-state matches.

In 2010, the General Assembly amended the Research Centers of Economic Excellence Act to create a new type of SmartState Award to be made in concert with the South Carolina Department of Commerce. Onequarter of the unallocated Centers of Excellence Matching Endowment funds is dedicated for funding such "SmartState Commerce Awards." SmartState Commerce Awards may not individually exceed \$ 2 million and do not require the dollar-for-dollar non-state match of Standard SmartState awards. In place of a matching requirement, the Secretary of Commerce is required to certify that a "significant capital investment" has been made in the related research field of a proposed SmartState Commerce Award professorial endowment; the intent of SmartState Commerce Award endowment is to "directly support the industry." These revisions became effective January 1, 2011.

## SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE YEAR ENDED JUNE 30, 2013

## Notes to Financial Statements

## Note 2. Summary of Significant Accounting Policies

Basis of presentation and method of accounting: The Program's financial statements are presented on the accrual basis of accounting. Revenues are recorded in the period earned, and expenses are recorded at the time liabilities are incurred. Inasmuch as state funds are not disbursed until cash gifts are in hand, a pledge received in support of a Center is not recognized as revenue until the pledge has been satisfied.

Property and equipment: Property and equipment purchased with program funds is deemed to be the property of the respective research institution.

Assets available for program use: State funds committed for Program use are permanently restricted, as well as $30 \%$ of the non-state matching funds of each Center of Economic Excellence, as endowment funds. Earnings from the endowments funds may be expended for direct program purposes, as well as any non-state matching funds that exceed the $30 \%$ endowment requirement. In-kind contributions of real property, equipment, supplies and other expendable property, and the value of goods and services directly benefiting and specifically identifiable to a project or program may be used to satisfy non-state matching requirements, but may not account for more than $70 \%$ of the non-state match total for each proposal.

Use of estimates: The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Federal grants used as non-state matching funds: Federal grants used as non-state matching funds by the research institutions are not reflected in the statements of program revenues and expenditures. Such funds are maintained separately from the Program by the research institutions. See Note 4 for additional information.

## Note 3. Assets Maintained by Research Institutions

The assets resulting from program activities are maintained by the research institutions, and are held by the universities, their respective foundations, or by the State Treasurer. At June 30, 2013, cash and investments maintained by the research institutions for program purposes was as follows:

Clemson University<br>Medical University of South Carolina<br>University of South Carolina Total

| $\$$ | $89,954,793$ |
| :--- | ---: |
|  | $138,146,338$ |
|  | $95,414,418$ |
| $\$$ | $323,515,549$ |

## SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE YEAR ENDED JUNE 30, 2013

## Notes to Financial Statements

## Note 4. Proposals Using Federal Grants for Non-State Matching Funds

As described in Note 2, federal grants are eligible for use as non-state matching funds, but are not included in the statements of program revenues and expenses. The following table displays the total federal awards that have qualified as non-state matching funds and those that have been used toward the non-state match for each proposal as of June 30, 2013.

| Institution | Proposal |
| :--- | :--- |
| Clemson | Optical Materials |
| Clemson | Sustainable Development |
| Clemson | Advanced Fiber-Based Materials |
| MUSC | Proteomics |
| MUSC | Marine Genomics |
| MUSC | Translational Cancer Therapeutics |
| MUSC | Cancer Drug Discovery |
| MUSC | Gastrointestinal Cancer |
| MUSC | Vision Science |
| MUSC | Tobacco-Related Malignancies |
| MUSC | Renal Disease Biomarkers |
| MUSC | Cancer Stem Cell |
| MUSC | Lipidomics |
| USC | Nanostructures |
| USC | Brain Imaging |
| USC | Polymer Nanocomposites |
| USC | Rendrogen Fuel Cell Economy |
| USC | Solid Oxide Fuel Cells |
| USC | Childhood Neurotherapeutics |
| USC | Data Analysis |
| USC | Nanoenvironmental Research and |
| USC | Assessment |
|  | Nuclear Science and Energy |
| USC | Nuclear Science Strategies |
| USC |  |


|  | Federal Gr <br> Non-State M |  | sed as g Funds |
| :---: | :---: | :---: | :---: |
|  | Total |  |  |
|  | Qualifiying |  | mount Used |
|  | As Non-State |  | Non-State |
|  | Match |  | Match |
| \$ | 772,961 | \$ | 772,961 |
|  | 1,313,439 |  | 1,002,971 |
|  | 310,000 |  | 310,000 |
|  | 1,375,919 |  | 1,313,697 |
|  | 2,927,730 |  | 2,208,577 |
|  | 6,174,089 |  | 3,001,905 |
|  | 6,292,518 |  | 3,395,490 |
|  | 3,221,264 |  | 2,438,472 |
|  | 1,956,478 |  | 1,605,443 |
|  | 3,221,264 |  | 2,402,904 |
|  | 268,520 |  | 268,250 |
|  | 2,457,288 |  | 1,857,092 |
|  | 2,578,100 |  | 2,578,100 |
|  | 1,624,983 |  | 1,523,633 |
|  | 1,444,820 |  | 1,444,820 |
|  | 1,336,000 |  | 1,336,000 |
|  | 2,020,110 |  | 1,876,971 |
|  | 661,451 |  | 661,451 |
|  | 970,516 |  | 970,516 |
|  | 1,258,935 |  | 655,286 |
|  | 1,243,106 |  | 1,168,428 |
|  | 143,444 |  | 143,444 |
|  | 731,822 |  | 510,749 |
|  | 952,230 |  | 952,230 |
|  | 1,110,839 |  | 1,110,839 |
| \$ | 46,367,826 | \$ | 35,510,229 |

## SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE YEAR ENDED JUNE 30, 2013

## Notes to Financial Statements

## Note 5. Subsequent Events

Subsequent events have been evaluated through November 29, 2013, the date these financial statements were available to be issued. As of November 29, 2013 the following drawdown requests have been submitted but have not been approved by the Joint Other Funds Committee:

| Institution | Center | Amount |
| :---: | :---: | :---: |
| MUSC | Translational Bioinformatics | \$ 1,600,273 |
| MUSC | Medication Safety \& Efficacy | 250,000 |
| MUSC | Advanced Tissue Biofabrication | 337,177 |
| Clemson | Smart Grid Technology | 2,000,000 |
|  |  | \$ 4,187,450 |

## INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Review Board<br>South Carolina Centers of Economic Excellence<br>Columbia, South Carolina

We have audited the financial statements of the South Carolina Centers of Economic Excellence for the year ended June 30, 2013, and have issued our report thereon dated November 29, 2013. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

## Internal Control Over Financial Reporting

In planning and performing our audit, we considered South Carolina Centers of Economic Excellence's internal control over financial reporting (internal control) as a basis for designing our auditing procedures for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Program's internal control. Accordingly, we do not express an opinion on the effectiveness of the Program's internal control.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over financial reporting that we would consider to be significant deficiencies or material weaknesses, as defined above.

## Compliance and Other Matters

As part of obtaining reasonable assurance about whether South Carolina Centers of Economic Excellence's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance that are required to be reported under Government Auditing Standards.

## Purpose of this Report

This report is intended solely for the information of management, the Review Board, the South Carolina Budget and Control Board, and the General Assembly and is not intended to be and should not be used by anyone other than those specified parties.

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November 29, 2013


[^0]:    Ray Greenberg, M.D., Ph.D.
    President
    Medical University of South Carolina

[^1]:    ${ }^{1}$ The General Assembly appropriated $\$ 30$ million per year in the state budget for fiscal years 2003 through 2008. The General Assembly has appropriated no new funds for fiscal years 2009 through 2013.

[^2]:    ${ }^{2}$ To date, the SmartState Review Board has obligated $\$ 17.6$ million in accrued program interest for the awarding of additional proposals, as is permitted by statute. To date, the Review Board has used all of the $\$ 17.6$ million in accrued interest to fund proposals in the 2008-2009, 2009-2010 and 2012-2013 award cycles.

[^3]:    ${ }^{1}$ Program totals are as of June 30, 2013. For Research Institution Totals, Centers Awarded and State Funds Drawn for each institution are tallied on the fiscal agent in cases of joint proposals. Chairs are tallied based on the assigned institution. For updated information on Centers and program totals, contact CHE or see www.smartstaesc.org.

[^4]:    See notes to financial statements.

[^5]:    See notes to financial statements.

[^6]:    See notes to financial statements.

[^7]:    See notes to financial statements.

[^8]:    See notes to financial statements.

[^9]:    See notes to financial statements.

[^10]:    Cumulative Program Net Income
    Ending

