



December 22, 2022

The Honorable Henry McMaster, Governor of the State of S.C.
The Honorable Thomas C. Alexander, President, and Members, S.C. Senate
The Honorable G. Murrell Smith, Jr., Speaker, and Members, S.C. House of Representatives

Dear Governor McMaster and Members of the S.C. General Assembly:

On behalf of the S.C. Centers of Economic Excellence Review Board, I am pleased to provide you with the SmartState Program 2021-2022 Annual Report and the 2021-2022 SmartState® Program Audit. We are proud to share with you the program's accomplishments and to report again this year an unqualified audit with no material findings. These reports highlight the tremendous success of SmartState®.

To date, the SmartState® Review Board has approved 51 research centers in areas such as biomedicine, pharmaceutical research, automotive engineering and transportation, energy, nanotechnology, information science, and advanced materials. Across these centers, 86 SmartState® endowed chair positions have been approved, and 74 appointments have been made and announced. As envisioned by the General Assembly in 2002, SmartState® is delivering significant returns on the state's investment on many fronts such as sponsored research, corporate partnerships, company relocations and startups, increased jobs in our state, and opportunities for young people at our universities, in industry, and as entrepreneurs. According to a recent study by the University of S.C.'s Moore School of Business, SmartState® is responsible for helping to create and support approximately 19,465 jobs in our state, which are associated with nearly \$3.9 billion in total economic activity and \$1.2 in labor income for South Carolinians that would not exist otherwise. Of the total jobs, 7,446 (38%) are high-paying knowledge economy jobs created directly through the program with an average salary of \$77,613, which is higher than the average annual salary among all jobs in South Carolina.

The SmartState® annual program report and audit are being transmitted in accordance with statute and made available to members of the S.C. General Assembly in electronic format through the S.C. Legislative Services Agency. You will also find a copy of the annual report and other program information available at www.smartstatesc.org. Should you desire a hardcopy annual report, please contact Dr. Argenti Anderson at the S.C. Commission on Higher Education at aanderson@che.sc.gov or 803.856-0511.

The SmartState® Review Board trusts the enclosed reports will be helpful to you in better understanding this important program and we look forward to working with you in the coming year and as the future of SmartState® is considered. As always, we extend our appreciation and thanks to each of you for the work you accomplish on behalf of higher education and academic research, and for the betterment of South Carolina and its citizens.

Sincerely,

Charles Kerekes

Charles Kerekes, Vice Chair, SmartState® Review Board

cc: The Honorable Richard Eckstrom, S.C. Comptroller General
The Honorable Curtis Loftis, State Treasurer of S.C.
Ms. Marcia Adams, Executive Director, Department of Administration
Members, SmartState® Review Board
Dr. Rusty Monhollon, President and Executive Director, S. C. Commission on Higher Education

**SOUTH CAROLINA CENTERS
OF ECONOMIC EXCELLENCE**

**ANNUAL
FINANCIAL REPORT**

JUNE 30, 2022

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

YEAR ENDED JUNE 30, 2022

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SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

REVIEW BOARD JUNE 30, 2022

<u>NAME</u>	<u>POSITION</u>	<u>APPOINTMENT</u>
Karoly Kerekes	Vice-Chair	Governor
Melvin C. Williams	Member	President Pro Tempore of the Senate
Lisa Main	Secretary	Speaker of the House
Robert W. Pearce, Jr.	Member	Speaker of the House
Roberta Bankhead Wood	Member	Chair, House Ways and Means Committee
James P. Clements	Ex-Officio	President, Clemson Univ.
David J. Cole	Ex-Officio	President, Medical Univ. of S.C.
Harris Pastides	Ex-Officio	President, Univ. of S.C.



SmartState® Program
Transmittal Letter
Period: Fiscal Year 2021-2022

This transmittal letter provides an overview of the SmartState program and data covering the fiscal year ended June 30, 2022. This discussion and analysis should be read in conjunction with the financial statement and accompanying notes. The financial statements have been audited by an independent auditor (Mauldin & Jenkins) 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 2010¹ 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 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 2022.

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 are 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 19 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 non-state match) is 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 codifying 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 in-kind 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. One-quarter 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. At the request of the Department of Commerce, the awards for this component of the SmartState Program have not been made. However, during the 2015-2016 legislative session, the SC General Assembly approved Proviso 117.139², which states that the SmartState Endowed Chairs Program funds earmarked for Commerce Awards shall be transferred by the Commission on Higher Education to the Department of Commerce’s Applied Research Centers by August 1, 2016. The program fund amount of \$2.8 million was transferred to the Department of Commerce on July 25, 2016.

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.

² Part 1B Proviso 117.139, FY 2015-16, states: The Endowed Chairs Program funds that have been set aside for “Commerce Awards” shall be transferred by the Commission on Higher Education to the Department of Commerce’s Applied Research Centers by August 1, 2016.

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.

2021-22 SmartState Summary Information

At the end of FY 2021-22, the program consists of 51 Centers with 86 approved SmartState Endowed Chairs of which 75 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 million³ in SmartState awards granted by the Board through the end of FY 2021-22, \$197.6 million in matching pledges have been committed by non-state sources. Of the committed pledges through FY 2021-22, \$197.6 million have been perfected and drawn down.

The table found on the following pages provides summary information on the Centers from FY 2002-03 through FY 2021-22.

³ 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.



**Summary of Approved SmartState Program
Centers of Economic Excellence by Fiscal (Funding) Year (2002-03 – 2021-22)**

Funding Year 2002-2003			
Institution (fiscal institution first)	Proposal Title	Endowed Chairs	Proposal Amount
Clemson	Automotive Systems Integration	1	\$5 million
Clemson	Automotive Manufacturing	1	\$5 million
USC	Nanostructures	1	\$4 million
USC/MUSC	Brain Imaging	3 ¹	\$5 million
MUSC	Proteomics	2	\$4 million
MUSC	Neuroscience	2 ²	\$3 million
MUSC/USC/CoC	Marine Genomics	2 ⁴	\$4 million
Total Awarded in 2002-2003		12	\$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	Innovation and Commercialization	1 ⁴	\$2.5 million
MUSC/Clemson/USC	Regenerative Medicine	3	\$5 million
MUSC/USC	Translational Cancer Therapeutics	2	\$5 million
Total Awarded in 2003-2004		10	\$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	Innovation and Commercialization	[See 03-04]	\$2.5 million
USC/Coastal Carolina	Tourism & Economic Development	1	\$2 million
MUSC	Gastrointestinal Cancer Diagnostics	2 ⁵	\$5 million
MUSC/USC	Cancer Drug Discovery	4	\$5 million
MUSC	Vision Science	2 ⁶	\$4.5 million
Total Awarded in 2004-2005		10	\$22 million

¹Revised to three chairs by act of the SmartState Review Board on January 12, 2009.

²Revised to two chairs by act of the SmartState Review Board on February 9, 2015.

³Revised to two chairs by act of the SmartState Review Board on February 23, 2010.

⁴The The Hydrogen Economy Center was approved during 2003-2004. Funding for one half of this Center was provided in 2003-04, the other half in 2004-2005. In 2014, the name changed to the SmartState Center for Innovation and Commercialization and revised to one chair.

⁵ Increased from one to two endowed chairs by act of the SmartState Review Board on September 8, 2008.

⁶Revised to two chairs and relinquished USC as a collaborative partner by act of the SmartState Review Board on February 11, 2014.

Funding Year 2005-2006			
Institution (fiscal institution first)	Proposal Title	Endowed Chairs	Proposal 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 Disease & Prevention	2	\$5 million
MUSC/USC	Clinical Effectiveness & Patient Safety ⁷	3	\$5 million
Total Awarded in 2005-2006		12	\$26 million
Funding Year 2006-2007			
Institution (fiscal institution first)	Proposal Title	Endowed Chairs	Proposal Amount
Clemson/MUSC	Health Facilities Design & Testing ⁸	2	\$2 million
USC	Rehabilitation and Reconstruction Science	1	\$5 million
USC	Strategic Approaches to the Generation of Electricity	1	\$5 million
USC/MUSC/Clemson	Healthcare Quality	2	\$5 million
USC/Clemson	SeniorSMART™ Center ⁹	3	\$5 million
MUSC	Tobacco-Related Malignancy	2	\$5 million
MUSC/USC	Stroke	3	\$5 million
Total Awarded in 2006-2007		14	\$32 million

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⁷On 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.

⁸The state award total for this Center was revised from \$5 million to \$2 million by the SmartState Review Board on June 11, 2012.

⁹The 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 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 ¹⁰	3	\$3.6 million
MUSC/USC	Medication Safety & Efficacy ¹¹	1	\$2 million
Total Awarded in 2007-2008		15	\$30.6 million
Funding Year 2008-2009			
Institution (fiscal institution first)	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 ¹²	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

¹⁰The Cancer Disparities Center of Economic Excellence was approved in 2008-2009. Funding was provided from 2007-2008 dollars.

¹¹The Medication Safety & Efficacy Center was approved in 2008-2009. Funding was provided from 2007-2008 dollars.

¹²The 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 (fiscal institution first)	Proposal Title	Endowed Chairs	Proposal Amount
Clemson	Smart Grid Technology	1	\$2 million
USC	Multifunctional Materials and Structures	1	\$2 million
MUSC	Translational Biomedical Informatics	1	\$2 million
Total Awarded in 2012-2013		3	\$6 million

Program Totals¹	
TOTAL LOTTERY APPROPRIATIONS (2003-2008)	\$180 million
ACCRUED PROGRAM INTEREST USED FOR ADDITIONAL AWARDS * * 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 Awarded	Chairs Created	Chairs Appointed (Remaining to be Appointed)	State Funds Drawn
Clemson University	13	16	15 (1)	\$43,000,000
University of South Carolina	18	28	21 (7)	\$66,650,000
Medical University of South Carolina	20	42	39 (3)	\$88,100,000
TOTALS	51	86	75 (11)	\$197.6 million

¹Program totals are as of fiscal year end June 30, 2022. 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 as of November 2022. For updated information on Centers and program totals, contact CHE or see www.smartstaesc.org.



INDEPENDENT AUDITOR'S REPORT

**To the Review Board
South Carolina Centers of Economic Excellence
Columbia, South Carolina**

Report on the Audit of the Financial Statement

Opinion

We have audited the total columns for Clemson University, the Medical University of South Carolina, and the University of South Carolina included in the accompanying Statement of Program Revenues, Expenditures and Changes in Fund Balances of the **South Carolina Centers of Economic Excellence** for the year ended June 30, 2022, and the related notes to the financial statement.

In our opinion, the financial statement referred to above presents fairly, in all material respects, the revenues, expenditures and changes in fund balances of each university within the South Carolina Centers of Economic Excellence for the year ended June 30, 2022, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statement section of our report. We are required to be independent of the South Carolina Centers of Economic Excellence, and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

We draw attention to Note 2 to the financial statement, which describes that the accompanying financial statement was prepared for the purpose of complying with the South Carolina Research Centers of Economic Excellence Act and is not intended to be a complete presentation of the South Carolina Centers of Economic Excellence's financial position. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

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

Auditor's Responsibilities for the Audit of the Financial Statement

Our objectives are to obtain reasonable assurance about whether the financial statement is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statement.

In performing an audit in accordance with GAAS, we

- exercise professional judgment and maintain professional skepticism throughout the audit.
- identify and assess the risks of material misstatement of the financial statement, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statement.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the South Carolina Centers of Economic Excellence's internal control. Accordingly, no such opinion is expressed.
- evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statement.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and internal control-related matters that we identified during the audit.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the total column for each university in the financial statement. The schedule of program revenues, expenditures and changes in fund balances – Clemson University, schedule of program revenues, expenditures and changes in fund balances – Medical University of South Carolina, and schedule of program revenues, expenditures and changes in fund balances – University of South Carolina (collectively, "the supplementary information") are presented for purposes of additional analysis and are not a required part of the financial statement.

Supplementary Information (continued)

Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statement. The information has been subjected to the auditing procedures applied in the audit of the financial statement and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statement or to the financial statement itself, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the financial statement as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory section but does not include the financial statement and our auditor's report thereon. Our opinion on the financial statement does not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the financial statement, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the financial statement, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Mauldin & Jenkins, LLC

Columbia, South Carolina
December 13, 2022

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
STATEMENT OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - CONSOLIDATED SUMMARY
YEAR ENDED JUNE 30, 2022

	Clemson University				Medical University of South Carolina					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	500	500	-	-	-	6,080	6,080
Other contribution revenue	-	-	-	-	-	-	-	-	14,964	14,964
Total contribution revenue	-	-	-	500	500	-	-	-	21,044	21,044
Investment Income										
Realized gain (loss)	-	-	-	5,802,177	5,802,177	-	-	205,167	9,600,138	9,805,305
Unrealized gain (loss)	-	-	-	(8,763,761)	(8,763,761)	-	-	(615,702)	(24,445,921)	(25,061,623)
Endowment income	-	-	-	(474,218)	(474,218)	-	-	29,918	674,448	704,366
Total investment income	-	-	-	(3,435,802)	(3,435,802)	-	-	(380,617)	(14,171,335)	(14,551,952)
Total revenue	-	-	-	(3,435,302)	(3,435,302)	-	-	(380,617)	(14,150,291)	(14,530,908)
Expenditures										
Personal services	-	-	-	2,141,429	2,141,429	-	-	-	3,008,171	3,008,171
Fringe	-	-	-	720,340	720,340	-	-	-	1,239,813	1,239,813
Travel	-	-	-	48,761	48,761	-	-	-	77,349	77,349
Subrecipients	-	-	-	-	-	-	-	-	792,090	792,090
Supplies	-	-	-	174,786	174,786	-	-	-	556,377	556,377
Contractual	-	-	-	-	-	-	-	-	21,244	21,244
Tuition assistance	-	-	-	15,000	15,000	-	-	-	134,770	134,770
Fixed charges	-	-	-	9,110	9,110	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	79,103	2,478,921	2,558,024
Other	-	-	-	319,224	319,224	-	-	-	525,401	525,401
Facilities	-	-	-	54,956	54,956	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	75,978	75,978
Equipment	-	-	-	181,885	181,885	-	-	-	171,020	171,020
Total expenditures	-	-	-	3,665,491	3,665,491	-	-	79,103	9,081,134	9,160,237
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(7,100,793)	(7,100,793)	-	-	(459,720)	(23,231,425)	(23,691,145)
Transfers	-	-	-	132,740	132,740	-	-	-	(325,453)	(325,453)
Net Change in Fund Balances	-	-	-	(6,968,053)	(6,968,053)	-	-	(459,720)	(23,556,878)	(24,016,598)
Fund Balances - June 30, 2021	43,000,000	37,783,221	156,000	72,013,373	152,952,594	85,599,999	35,496,979	6,189,995	59,147,044	186,434,017
Fund Balances - June 30, 2022	\$ 43,000,000	\$ 37,783,221	\$ 156,000	\$ 65,045,320	\$ 145,984,541	\$ 85,599,999	\$ 35,496,979	\$ 5,730,275	\$ 35,590,166	\$ 162,417,419

See notes to financial statement.

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
STATEMENT OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - CONSOLIDATED SUMMARY
YEAR ENDED JUNE 30, 2022

	University of South Carolina					Total - Consolidated Summary				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	70,015	70,015	-	-	-	76,595	76,595
Other contribution revenue	-	278,428	-	483,406	761,834	-	278,428	-	498,370	776,798
Total contribution revenue	-	278,428	-	553,421	831,849	-	278,428	-	574,965	853,393
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	205,167	15,402,315	15,607,482
Unrealized gain (loss)	-	-	-	1,504,126	1,504,126	-	-	(615,702)	(31,705,556)	(32,321,258)
Endowment income	-	-	3,425	(5,556,077)	(5,552,652)	-	-	33,343	(5,355,847)	(5,322,504)
Total investment income	-	-	3,425	(4,051,951)	(4,048,526)	-	-	(377,192)	(21,659,088)	(22,036,280)
Total revenue	-	278,428	3,425	(3,498,530)	(3,216,677)	-	278,428	(377,192)	(21,084,123)	(21,182,887)
Expenditures										
Personal services	-	-	132,220	2,513,617	2,645,837	-	-	132,220	7,663,217	7,795,437
Fringe	-	-	3,393	562,903	566,296	-	-	3,393	2,523,056	2,526,449
Travel	-	-	292	94,569	94,861	-	-	292	220,679	220,971
Subrecipients	-	-	-	-	-	-	-	-	792,090	792,090
Supplies	-	-	1,099	307,217	308,316	-	-	1,099	1,038,380	1,039,479
Contractual	-	-	84,211	349,893	434,104	-	-	84,211	371,137	455,348
Tuition assistance	-	-	4,376	220,460	224,836	-	-	4,376	370,230	374,606
Fixed charges	-	-	3,540	98,573	102,113	-	-	3,540	107,683	111,223
Administrative fees	-	-	-	447,683	447,683	-	-	79,103	2,926,604	3,005,707
Other	-	-	-	171,137	171,137	-	-	-	1,015,762	1,015,762
Facilities	-	-	-	-	-	-	-	-	54,956	54,956
Professional & other fees	-	-	-	-	-	-	-	-	75,978	75,978
Equipment	-	-	2,631	220,909	223,540	-	-	2,631	573,814	576,445
Total expenditures	-	-	231,762	4,986,961	5,218,723	-	-	310,865	17,733,586	18,044,451
Excess (deficiency) of revenues over (under) expenditures	-	278,428	(228,337)	(8,485,491)	(8,435,400)	-	278,428	(688,057)	(38,817,709)	(39,227,338)
Transfers	-	-	-	192,713	192,713	-	-	-	-	-
Net Change in Fund Balances	-	278,428	(228,337)	(8,292,778)	(8,242,687)	-	278,428	(688,057)	(38,817,709)	(39,227,338)
Fund Balances - June 30, 2021	66,500,000	29,587,799	598,897	24,315,088	121,001,784	195,099,999	102,867,999	6,944,892	155,475,505	460,388,395
Fund Balances - June 30, 2022	\$ 66,500,000	\$ 29,866,227	\$ 370,560	\$ 16,022,310	\$ 112,759,097	\$ 195,099,999	\$ 103,146,427	\$ 6,256,835	\$ 116,657,796	\$ 421,161,057

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

NOTES TO FINANCIAL STATEMENT YEAR END JUNE 30, 2022

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 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 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.

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

NOTES TO FINANCIAL STATEMENT YEAR END JUNE 30, 2022

NOTE 1. DESCRIPTION OF PROGRAM (CONTINUED)

In 2010, the General Assembly amended the Act to create a new type of SmartState Award to be made in concert with the South Carolina Department of Commerce. One-quarter 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.

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Measurement Focus, Basis of Accounting and Financial Statement Presentation:

The Program’s financial statement was prepared solely for the purpose of complying with Chapter 75 Section 2-75-10, the South Carolina Research Centers of Economic Excellence Act. The financial statement is not a complete presentation of the financial statements of the Program but one that is otherwise in accordance with Generally Accepted Accounting Principles.

The Program’s fund financial statement is reported using the *current financial resources measurement focus* and the *modified accrual basis of accounting*. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Program considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

Property and Equipment:

Property and equipment purchased with program funds are recorded as expenditures in the statement of program revenues, expenditures and changes in fund balances and 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.

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

NOTES TO FINANCIAL STATEMENT YEAR END JUNE 30, 2022

NOTE 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

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 fund balance at the date of the financial statements and the reported amounts of revenues and expenditures 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.

Realized and Unrealized Investment Gains and Losses and Investment Income:

Realized and unrealized gains and losses and income from the investments in the master investment accounts at each of the Research Institution Foundations and at each of the Research Institutions are allocated periodically, including at year end, to the individual SmartState accounts based on the relationship of the fair value of each individual account to the total fair value of the master investment accounts, and adjusted for additions to or deductions from those accounts.

Transfers:

For each research center, one (1) of the participating institutions is designated as the fiscal agent. However, program activities may occur at more than one (1) of the participating institutions and therefore, transfers of resources to fund program activities are reported from the fiscal agent to the participating institution(s). These transfers will net to zero across all three (3) SmartState research institutions in the consolidated summary.

NOTE 3. ASSETS MAINTAINED BY RESEARCH INSTITUTIONS/FUND BALANCE

The fund balance resulting from program activities are maintained by the research institutions, and is held by the universities, their respective foundations, or by the State Treasurer. At June 30, 2022, fund balance consisted of cash and investments maintained by the research institutions for program purposes and was as follows:

Clemson University	\$ 145,984,541
Medical University of South Carolina	162,417,419
University of South Carolina	<u>112,759,097</u>
Total	<u>\$ 421,161,057</u>

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE

NOTES TO FINANCIAL STATEMENT YEAR END JUNE 30, 2022

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 expenditures. 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, 2022:

<u>Institution</u>	<u>Proposal</u>	<u>Federal Grants Used as Non-state Matching Funds</u>	
		<u>Total</u> Qualifying as Non-state Match	<u>Amount Used</u> as Non-state Match
Clemson	Optical Materials	\$ 772,961	\$ 772,961
Clemson	Sustainable Development	1,313,439	1,000,000
Clemson	Advanced Fiber-based Materials	310,000	310,000
MUSC	Proteomics	1,375,919	1,265,030
MUSC	Marine Genomics	2,927,730	2,208,577
MUSC	Translational Cancer Therapeutics	6,174,089	3,001,905
MUSC	Cancer Drug Discovery	6,292,518	3,395,490
MUSC	Gastrointestinal Cancer	3,221,264	2,438,472
MUSC	Vision Science	1,956,478	1,476,419
MUSC	Tobacco-related Malignancies	3,221,264	2,402,853
MUSC	Renal Disease Biomarkers	268,520	254,406
MUSC	Cancer Stem Cell	2,457,288	1,851,876
MUSC	Advanced Tissue Biofabrication	2,578,100	2,502,146
MUSC	Lipidomics	1,624,983	1,523,925
USC	Nanostructures	1,444,820	1,444,820
USC	Brain Imaging	1,336,000	1,336,000
USC	Polymer Nanocomposites	2,020,110	2,020,110
USC	Hydrogen Fuel Cell Economy	661,451	661,451
USC	Renewable Fuel Cells	970,516	970,516
USC	Solid Oxide Fuel Cells	1,106,179	1,106,179
USC	Childhood Neurotherapeutics	1,243,106	1,243,106
USC	Data Analysis	533,444	533,444
USC	Nanoenvironmental Research and Assessment	731,822	731,822
USC	Nuclear Science and Energy	848,512	842,408
USC	General Atomics Center for the Development of Translational Nuclear Technology	1,105,531	1,105,531
		<u>\$ 46,496,044</u>	<u>\$ 36,399,447</u>

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Automotive Design and Development				Automotive Manufacturing Integration					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	561,641	561,641	-	-	-	703,323	703,323
Unrealized gain (loss)	-	-	-	(843,525)	(843,525)	-	-	-	(1,068,676)	(1,068,676)
Endowment income	-	-	-	(44,426)	(44,426)	-	-	-	(59,946)	(59,946)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(326,310)</u>	<u>(326,310)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(425,299)</u>	<u>(425,299)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(326,310)</u>	<u>(326,310)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(425,299)</u>	<u>(425,299)</u>
Expenditures										
Personal services	-	-	-	295,118	295,118	-	-	-	563,483	563,483
Fringe	-	-	-	107,274	107,274	-	-	-	207,449	207,449
Travel	-	-	-	13,767	13,767	-	-	-	1,881	1,881
Supplies	-	-	-	961	961	-	-	-	11,992	11,992
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	15,000	15,000	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	3,001	3,001	-	-	-	18,541	18,541
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	212	212	-	-	-	16,931	16,931
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>435,333</u>	<u>435,333</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>820,277</u>	<u>820,277</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(761,643)	(761,643)	-	-	-	(1,245,576)	(1,245,576)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(761,643)	(761,643)	-	-	-	(1,245,576)	(1,245,576)
Fund Balances - June 30, 2021	5,000,000	2,845,991	-	6,410,424	14,256,415	5,000,000	5,000,000	-	8,376,886	18,376,886
Fund Balances - June 30, 2022	<u>\$ 5,000,000</u>	<u>\$ 2,845,991</u>	<u>\$ -</u>	<u>\$ 5,648,781</u>	<u>\$ 13,494,772</u>	<u>\$ 5,000,000</u>	<u>\$ 5,000,000</u>	<u>\$ -</u>	<u>\$ 7,131,310</u>	<u>\$ 17,131,310</u>

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Automotive Systems Integration				Optical Materials					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	-	754,900	754,900	-	-	-	566,605	566,605
Unrealized gain (loss)	-	-	-	(1,147,635)	(1,147,635)	-	-	-	(846,892)	(846,892)
Endowment income	-	-	-	(64,540)	(64,540)	-	-	-	(43,580)	(43,580)
Total investment income (loss)	-	-	-	(457,275)	(457,275)	-	-	-	(323,867)	(323,867)
Total revenue	-	-	-	(457,275)	(457,275)	-	-	-	(323,867)	(323,867)
Expenditures										
Personal services	-	-	-	92,472	92,472	-	-	-	120,238	120,238
Fringe	-	-	-	29,176	29,176	-	-	-	45,153	45,153
Travel	-	-	-	3,791	3,791	-	-	-	2,018	2,018
Supplies	-	-	-	15,771	15,771	-	-	-	33,583	33,583
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	9,110	9,110
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	33,349	33,349	-	-	-	59,802	59,802
Facilities	-	-	-	53,937	53,937	-	-	-	1,019	1,019
Equipment	-	-	-	10	10	-	-	-	11,180	11,180
Total expenses	-	-	-	228,506	228,506	-	-	-	282,103	282,103
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(685,781)	(685,781)	-	-	-	(605,970)	(605,970)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(685,781)	(685,781)	-	-	-	(605,970)	(605,970)
Fund Balances - June 30, 2021	5,000,000	5,000,000	114,921	9,963,537	20,078,458	5,000,000	3,050,852	10,903	7,075,870	15,137,625
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 5,000,000	\$ 114,921	\$ 9,277,756	\$ 19,392,677	\$ 5,000,000	\$ 3,050,852	\$ 10,903	\$ 6,469,900	\$ 14,531,655

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Vehicle Electronic Systems				Supply Chain Optimization and Logistics					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	357,796	357,796	-	-	-	281,943	281,943
Unrealized gain (loss)	-	-	-	(538,033)	(538,033)	-	-	-	(428,717)	(428,717)
Endowment income	-	-	-	(28,610)	(28,610)	-	-	-	(24,079)	(24,079)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(208,847)</u>	<u>(208,847)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(170,853)</u>	<u>(170,853)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(208,847)</u>	<u>(208,847)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(170,853)</u>	<u>(170,853)</u>
Expenditures										
Personal services	-	-	-	105,295	105,295	-	-	-	51,173	51,173
Fringe	-	-	-	36,129	36,129	-	-	-	2,885	2,885
Travel	-	-	-	1,994	1,994	-	-	-	-	-
Supplies	-	-	-	443	443	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	13,435	13,435	-	-	-	-	-
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	22,910	22,910	-	-	-	-	-
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>180,206</u>	<u>180,206</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>54,058</u>	<u>54,058</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(389,053)	(389,053)	-	-	-	(224,911)	(224,911)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(389,053)	(389,053)	-	-	-	(224,911)	(224,911)
Fund Balances - June 30, 2021	3,000,000	2,000,000	-	4,053,670	9,053,670	2,000,000	2,005,511	-	3,118,527	7,124,038
Fund Balances - June 30, 2022	<u>\$ 3,000,000</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 3,664,617</u>	<u>\$ 8,664,617</u>	<u>\$ 2,000,000</u>	<u>\$ 2,005,511</u>	<u>\$ -</u>	<u>\$ 2,893,616</u>	<u>\$ 6,899,127</u>

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Urban Ecology and Restoration				Advanced Fiber-based Materials					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	500	500
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>500</u>	<u>500</u>
Investment Income										
Realized gain (loss)	-	-	-	297,966	297,966	-	-	-	525,394	525,394
Unrealized gain (loss)	-	-	-	(454,776)	(454,776)	-	-	-	(795,570)	(795,570)
Endowment income	-	-	-	(24,146)	(24,146)	-	-	-	(43,834)	(43,834)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(180,956)</u>	<u>(180,956)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(314,010)</u>	<u>(314,010)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(180,956)</u>	<u>(180,956)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(313,510)</u>	<u>(313,510)</u>
Expenditures										
Personal services	-	-	-	182,670	182,670	-	-	-	199,927	199,927
Fringe	-	-	-	45,698	45,698	-	-	-	76,775	76,775
Travel	-	-	-	1,844	1,844	-	-	-	7,120	7,120
Supplies	-	-	-	14,694	14,694	-	-	-	2,630	2,630
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	12,399	12,399	-	-	-	48,312	48,312
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	23,650	23,650	-	-	-	75,455	75,455
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>280,955</u>	<u>280,955</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>410,219</u>	<u>410,219</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(461,911)	(461,911)	-	-	-	(723,729)	(723,729)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(461,911)	(461,911)	-	-	-	(723,729)	(723,729)
Fund Balances - June 30, 2021	2,000,000	2,230,109	-	3,441,665	7,671,774	4,000,000	3,482,500	30,176	6,758,136	14,270,812
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 2,230,109</u>	<u>\$ -</u>	<u>\$ 2,979,754</u>	<u>\$ 7,209,863</u>	<u>\$ 4,000,000</u>	<u>\$ 3,482,500</u>	<u>\$ 30,176</u>	<u>\$ 6,034,407</u>	<u>\$ 13,547,083</u>

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Health Facilities Design and Testing*				Optoelectronics					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	325,181	325,181	-	-	-	285,988	285,988
Unrealized gain (loss)	-	-	-	(468,376)	(468,376)	-	-	-	(435,621)	(435,621)
Endowment income	-	-	-	(19,096)	(19,096)	-	-	-	(24,730)	(24,730)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(162,291)</u>	<u>(162,291)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(174,363)</u>	<u>(174,363)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(162,291)</u>	<u>(162,291)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(174,363)</u>	<u>(174,363)</u>
Expenditures										
Personal services	-	-	-	43,341	43,341	-	-	-	81,547	81,547
Fringe	-	-	-	16,294	16,294	-	-	-	29,387	29,387
Travel	-	-	-	1,868	1,868	-	-	-	-	-
Supplies	-	-	-	245	245	-	-	-	62,268	62,268
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	1,912	1,912	-	-	-	55,403	55,403
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	30,537	30,537
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>63,660</u>	<u>63,660</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>259,142</u>	<u>259,142</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(225,951)	(225,951)	-	-	-	(433,505)	(433,505)
Transfers	-	-	-	(119,455)	(119,455)	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(345,406)	(345,406)	-	-	-	(433,505)	(433,505)
Fund Balances - June 30, 2021	2,000,000	2,000,000	-	4,193,803	8,193,803	2,000,000	2,006,799	-	3,221,696	7,228,495
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 3,848,397</u>	<u>\$ 7,848,397</u>	<u>\$ 2,000,000</u>	<u>\$ 2,006,799</u>	<u>\$ -</u>	<u>\$ 2,788,191</u>	<u>\$ 6,794,990</u>

* Collaborative Center

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YEAR ENDED JUNE 30, 2022**

	Cyber-institute				Sustainable Development					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	232,215	232,215	-	-	-	505,010	505,010
Unrealized gain (loss)	-	-	-	(349,197)	(349,197)	-	-	-	(761,539)	(761,539)
Endowment income	-	-	-	(18,284)	(18,284)	-	-	-	(41,085)	(41,085)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(135,266)</u>	<u>(135,266)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(297,614)</u>	<u>(297,614)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(135,266)</u>	<u>(135,266)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(297,614)</u>	<u>(297,614)</u>
Expenditures										
Personal services	-	-	-	44,606	44,606	-	-	-	73,942	73,942
Fringe	-	-	-	16,594	16,594	-	-	-	27,507	27,507
Travel	-	-	-	-	-	-	-	-	2,121	2,121
Supplies	-	-	-	-	-	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	95	95	-	-	-	17,340	17,340
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	1,000	1,000
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>61,295</u>	<u>61,295</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>121,910</u>	<u>121,910</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(196,561)	(196,561)	-	-	-	(419,524)	(419,524)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(196,561)	(196,561)	-	-	-	(419,524)	(419,524)
Fund Balances - June 30, 2021	2,000,000	1,150,001	-	3,224,045	6,374,046	4,000,000	3,011,458	-	6,803,711	13,815,169
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 1,150,001</u>	<u>\$ -</u>	<u>\$ 3,027,484</u>	<u>\$ 6,177,485</u>	<u>\$ 4,000,000</u>	<u>\$ 3,011,458</u>	<u>\$ -</u>	<u>\$ 6,384,187</u>	<u>\$ 13,395,645</u>

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
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YEAR ENDED JUNE 30, 2022**

	Duke Energy Smart Grid				Senior Smart *					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	265,831	265,831	-	-	-	-	-
Unrealized gain (loss)	-	-	-	(403,338)	(403,338)	-	-	-	-	-
Endowment income	-	-	-	(22,183)	(22,183)	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(159,690)</u>	<u>(159,690)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(159,690)</u>	<u>(159,690)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	40,369	40,369	-	-	-	51,170	51,170
Fringe	-	-	-	11,322	11,322	-	-	-	19,035	19,035
Travel	-	-	-	5,769	5,769	-	-	-	-	-
Supplies	-	-	-	11,637	11,637	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	50,330	50,330	-	-	-	-	-
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>119,427</u>	<u>119,427</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>70,205</u>	<u>70,205</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(279,117)	(279,117)	-	-	-	(70,205)	(70,205)
Transfers	-	-	-	-	-	-	-	-	104,435	104,435
Net Change in Fund Balances	-	-	-	(279,117)	(279,117)	-	-	-	34,230	34,230
Fund Balances - June 30, 2021	2,000,000	2,000,000	-	3,024,370	7,024,370	-	-	-	627,940	627,940
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 2,745,253</u>	<u>\$ 6,745,253</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 662,170</u>	<u>\$ 662,170</u>

* Collaborative Center-USC Fiscal Agent

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Advanced Tissue Biofabrication*				Regenerative Medicine *					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	138,384	138,384
Unrealized gain (loss)	-	-	-	-	-	-	-	-	(221,866)	(221,866)
Endowment income	-	-	-	-	-	-	-	-	(15,679)	(15,679)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(99,161)</u>	<u>(99,161)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(99,161)</u>	<u>(99,161)</u>
Expenditures										
Personal services	-	-	-	49,648	49,648	-	-	-	146,430	146,430
Fringe	-	-	-	17,597	17,597	-	-	-	32,065	32,065
Travel	-	-	-	1,023	1,023	-	-	-	5,565	5,565
Supplies	-	-	-	9,503	9,503	-	-	-	11,059	11,059
Contractual	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	977	977	-	-	-	4,328	4,328
Facilities	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>78,748</u>	<u>78,748</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>199,447</u>	<u>199,447</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(78,748)	(78,748)	-	-	-	(298,608)	(298,608)
Transfers	-	-	-	66,081	66,081	-	-	-	81,679	81,679
Net Change in Fund Balances	-	-	-	(12,667)	(12,667)	-	-	-	(216,929)	(216,929)
Fund Balances - June 30, 2021	-	-	-	(43)	(43)	-	2,000,000	-	1,719,136	3,719,136
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (12,710)</u>	<u>\$ (12,710)</u>	<u>\$ -</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 1,502,207</u>	<u>\$ 3,502,207</u>

* Collaborative Center-MUSC Fiscal Agent

* Collaborative Center-MUSC Fiscal Agent

**SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
CLEMSON UNIVERSITY
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022**

	Total - Clemson University				Total
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	
Contribution Revenue					
State funds	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	500	500
Other contribution revenue	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>500</u>	<u>500</u>
Investment Income					
Realized gain (loss)	-	-	-	5,802,177	5,802,177
Unrealized gain (loss)	-	-	-	(8,763,761)	(8,763,761)
Endowment income	-	-	-	(474,218)	(474,218)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(3,435,802)</u>	<u>(3,435,802)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(3,435,302)</u>	<u>(3,435,302)</u>
Expenditures					
Personal services	-	-	-	2,141,429	2,141,429
Fringe	-	-	-	720,340	720,340
Travel	-	-	-	48,761	48,761
Supplies	-	-	-	174,786	174,786
Contractual	-	-	-	-	-
Tuition assistance	-	-	-	15,000	15,000
Fixed charges	-	-	-	9,110	9,110
Administrative fees	-	-	-	-	-
Other	-	-	-	319,224	319,224
Facilities	-	-	-	54,956	54,956
Equipment	-	-	-	181,885	181,885
Total expenses	<u>-</u>	<u>-</u>	<u>-</u>	<u>3,665,491</u>	<u>3,665,491</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(7,100,793)	(7,100,793)
Transfers	-	-	-	132,740	132,740
Net Change in Fund Balances	-	-	-	(6,968,053)	(6,968,053)
Fund Balances - June 30, 2021	43,000,000	37,783,221	156,000	72,013,373	152,952,594
Fund Balances - June 30, 2022	<u>\$ 43,000,000</u>	<u>\$ 37,783,221</u>	<u>\$ 156,000</u>	<u>\$ 65,045,320</u>	<u>\$ 145,984,541</u>

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Proteomics				Neurosciences					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	418,676	418,676	-	-	30,249	325,112	355,361
Unrealized gain (loss)	-	-	-	(1,057,480)	(1,057,480)	-	-	(93,341)	(821,561)	(914,902)
Endowment income	-	-	-	29,241	29,241	-	-	4,564	22,706	27,270
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(609,563)</u>	<u>(609,563)</u>	<u>-</u>	<u>-</u>	<u>(58,528)</u>	<u>(473,743)</u>	<u>(532,271)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(609,563)</u>	<u>(609,563)</u>	<u>-</u>	<u>-</u>	<u>(58,528)</u>	<u>(473,743)</u>	<u>(532,271)</u>
Expenditures										
Personal services	-	-	-	43,440	43,440	-	-	-	230,299	230,299
Fringe	-	-	-	15,993	15,993	-	-	-	95,334	95,334
Travel	-	-	-	56,690	56,690	-	-	-	-	-
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	67,314	67,314	-	-	-	1,813	1,813
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	107,871	107,871	-	-	11,757	83,773	95,530
Other	-	-	-	-	-	-	-	-	(110,000)	(110,000)
Tuition assistance	-	-	-	3,000	3,000	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	13,810	13,810	-	-	-	-	-
Equipment	-	-	-	5,704	5,704	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>313,822</u>	<u>313,822</u>	<u>-</u>	<u>-</u>	<u>11,757</u>	<u>301,219</u>	<u>312,976</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(923,385)	(923,385)	-	-	(70,285)	(774,962)	(845,247)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(923,385)	(923,385)	-	-	(70,285)	(774,962)	(845,247)
Fund Balances - June 30, 2021	4,000,000	1,254,266	-	2,210,784	7,465,050	3,000,000	900,350	781,947	2,111,311	6,793,608
Fund Balances - June 30, 2022	<u>\$ 4,000,000</u>	<u>\$ 1,254,266</u>	<u>\$ -</u>	<u>\$ 1,287,399</u>	<u>\$ 6,541,665</u>	<u>\$ 3,000,000</u>	<u>\$ 900,350</u>	<u>\$ 711,662</u>	<u>\$ 1,336,349</u>	<u>\$ 5,948,361</u>

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	BEACH				Regenerative Medicine*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	717	717
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>717</u>	<u>717</u>
Investment Income										
Realized gain (loss)	-	-	-	295,759	295,759	-	-	-	412,488	412,488
Unrealized gain (loss)	-	-	-	(891,361)	(891,361)	-	-	-	(1,046,881)	(1,046,881)
Endowment income	-	-	-	20,656	20,656	-	-	-	28,956	28,956
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(574,946)</u>	<u>(574,946)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(605,437)</u>	<u>(605,437)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(574,946)</u>	<u>(574,946)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(604,720)</u>	<u>(604,720)</u>
Expenditures										
Personal services	-	-	-	47,658	47,658	-	-	-	(1,193)	(1,193)
Fringe	-	-	-	20,391	20,391	-	-	-	(390)	(390)
Travel	-	-	-	-	-	-	-	-	-	-
Subrecipients	-	-	-	-	-	-	-	-	163,358	163,358
Supplies	-	-	-	1,734	1,734	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	117,009	117,009	-	-	-	106,428	106,428
Other	-	-	-	232,620	232,620	-	-	-	(4,766)	(4,766)
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	775	775	-	-	-	22,624	22,624
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>420,187</u>	<u>420,187</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>286,061</u>	<u>286,061</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(995,133)	(995,133)	-	-	-	(890,781)	(890,781)
Transfers	-	-	-	-	-	-	-	-	(163,358)	(163,358)
Net Change in Fund Balances	-	-	-	(995,133)	(995,133)	-	-	-	(1,054,139)	(1,054,139)
Fund Balances - June 30, 2021	1,500,000	4,000,000	-	3,534,575	9,034,575	5,000,000	-	-	2,100,912	7,100,912
Fund Balances - June 30, 2022	<u>\$ 1,500,000</u>	<u>\$ 4,000,000</u>	<u>\$ -</u>	<u>\$ 2,539,442</u>	<u>\$ 8,039,442</u>	<u>\$ 5,000,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 1,046,773</u>	<u>\$ 6,046,773</u>

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	Translational Cancer Therapeutics*					Drug Discovery in Cancer*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	559,366	559,366	-	-	-	518,521	518,521
Unrealized gain (loss)	-	-	-	(1,417,074)	(1,417,074)	-	-	-	(1,311,473)	(1,311,473)
Endowment income	-	-	-	39,145	39,145	-	-	-	36,255	36,255
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(818,563)</u>	<u>(818,563)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(756,697)</u>	<u>(756,697)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(818,563)</u>	<u>(818,563)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(756,697)</u>	<u>(756,697)</u>
Expenditures										
Personal services	-	-	-	158,859	158,859	-	-	-	116,441	116,441
Fringe	-	-	-	67,991	67,991	-	-	-	49,463	49,463
Travel	-	-	-	-	-	-	-	-	10,437	10,437
Subrecipients	-	-	-	118,715	118,715	-	-	-	61,728	61,728
Supplies	-	-	-	-	-	-	-	-	33,037	33,037
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	102,037	102,037	-	-	-	133,628	133,628
Other	-	-	-	-	-	-	-	-	3,751	3,751
Tuition assistance	-	-	-	-	-	-	-	-	17,971	17,971
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	2,130	2,130
Equipment	-	-	-	42,170	42,170	-	-	-	3,815	3,815
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>489,772</u>	<u>489,772</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>432,401</u>	<u>432,401</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(1,308,335)	(1,308,335)	-	-	-	(1,189,098)	(1,189,098)
Transfers	-	-	-	(118,715)	(118,715)	-	-	-	(61,728)	(61,728)
Net Change in Fund Balances	-	-	-	(1,427,050)	(1,427,050)	-	-	-	(1,250,826)	(1,250,826)
Fund Balances - June 30, 2021	5,000,000	1,998,095	-	2,963,251	9,961,346	5,000,000	1,604,510	-	2,530,318	9,134,828
Fund Balances - June 30, 2022	<u>\$ 5,000,000</u>	<u>\$ 1,998,095</u>	<u>\$ -</u>	<u>\$ 1,536,201</u>	<u>\$ 8,534,296</u>	<u>\$ 5,000,000</u>	<u>\$ 1,604,510</u>	<u>\$ -</u>	<u>\$ 1,279,492</u>	<u>\$ 7,884,002</u>

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	Gastrointestinal Cancer Diagnostics					Vision Science				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	21,864	554,198	576,062	-	-	20,512	497,400	517,912
Unrealized gain (loss)	-	-	(67,192)	(1,401,003)	(1,468,195)	-	-	(63,394)	(1,257,436)	(1,320,830)
Endowment income	-	-	3,258	38,706	41,964	-	-	3,110	34,739	37,849
Total investment income (loss)	-	-	(42,070)	(808,099)	(850,169)	-	-	(39,772)	(725,297)	(765,069)
Total revenue	-	-	(42,070)	(808,099)	(850,169)	-	-	(39,772)	(725,297)	(765,069)
Expenditures										
Personal services	-	-	-	184,392	184,392	-	-	-	151,338	151,338
Fringe	-	-	-	78,911	78,911	-	-	-	63,462	63,462
Travel	-	-	-	-	-	-	-	-	119	119
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	27	27	-	-	-	6,678	6,678
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	8,431	142,825	151,256	-	-	7,997	128,895	136,892
Other	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	11,281	11,281
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	2,758	2,758
Total expenditures	-	-	8,431	406,155	414,586	-	-	7,997	364,531	372,528
Excess (deficiency) of revenues over (under) expenditures	-	-	(50,501)	(1,214,254)	(1,264,755)	-	-	(47,769)	(1,089,828)	(1,137,597)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	(50,501)	(1,214,254)	(1,264,755)	-	-	(47,769)	(1,089,828)	(1,137,597)
Fund Balances - June 30, 2021	5,000,000	2,000,000	477,955	3,243,707	10,721,662	4,500,000	1,883,774	453,979	4,053,294	10,891,047
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 2,000,000	\$ 427,454	\$ 2,029,453	\$ 9,456,907	\$ 4,500,000	\$ 1,883,774	\$ 406,210	\$ 2,963,466	\$ 9,753,450

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	Clinical Effectiveness and Patient Safety*				Molecular Proteomics in Cardiovascular Disease and Prevention					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	14,964	14,964
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>14,964</u>	<u>14,964</u>
Investment Income										
Realized gain (loss)	-	-	-	555,662	555,662	-	-	54,661	641,853	696,514
Unrealized gain (loss)	-	-	-	(1,406,245)	(1,406,245)	-	-	(167,981)	(1,622,454)	(1,790,435)
Endowment income	-	-	-	38,855	38,855	-	-	8,144	44,828	52,972
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(811,728)</u>	<u>(811,728)</u>	<u>-</u>	<u>-</u>	<u>(105,176)</u>	<u>(935,773)</u>	<u>(1,040,949)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(811,728)</u>	<u>(811,728)</u>	<u>-</u>	<u>-</u>	<u>(105,176)</u>	<u>(920,809)</u>	<u>(1,025,985)</u>
Expenditures										
Personal services	-	-	-	155,168	155,168	-	-	-	226,526	226,526
Fringe	-	-	-	66,411	66,411	-	-	-	96,929	96,929
Travel	-	-	-	6,150	6,150	-	-	-	1,270	1,270
Subrecipients	-	-	-	71,118	71,118	-	-	-	-	-
Supplies	-	-	-	1,804	1,804	-	-	-	15,597	15,597
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	143,224	143,224	-	-	21,077	165,410	186,487
Other	-	-	-	75,013	75,013	-	-	-	4,516	4,516
Tuition assistance	-	-	-	2,042	2,042	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	2,428	2,428	-	-	-	(280)	(280)
Equipment	-	-	-	56	56	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>523,414</u>	<u>523,414</u>	<u>-</u>	<u>-</u>	<u>21,077</u>	<u>509,968</u>	<u>531,045</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(1,335,142)	(1,335,142)	-	-	(126,253)	(1,430,777)	(1,557,030)
Transfers	-	-	-	(71,118)	(71,118)	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(1,406,260)	(1,406,260)	-	-	(126,253)	(1,430,777)	(1,557,030)
Fund Balances - June 30, 2021	5,000,000	2,000,000	-	2,772,736	9,772,736	5,000,000	3,518,805	1,194,898	3,038,794	12,752,497
Fund Balances - June 30, 2022	<u>\$ 5,000,000</u>	<u>\$ 2,000,000</u>	<u>\$ -</u>	<u>\$ 1,366,476</u>	<u>\$ 8,366,476</u>	<u>\$ 5,000,000</u>	<u>\$ 3,518,805</u>	<u>\$ 1,068,645</u>	<u>\$ 1,608,017</u>	<u>\$ 11,195,467</u>

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	Tobacco-related Malignancy				Stroke*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	5,000	5,000	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	5,000	5,000	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	-	619,747	619,747	-	-	-	607,876	607,876
Unrealized gain (loss)	-	-	-	(1,589,052)	(1,589,052)	-	-	-	(1,537,013)	(1,537,013)
Endowment income	-	-	-	46,570	46,570	-	-	-	42,640	42,640
Total investment income (loss)	-	-	-	(922,735)	(922,735)	-	-	-	(886,497)	(886,497)
Total revenue	-	-	-	(917,735)	(917,735)	-	-	-	(886,497)	(886,497)
Expenditures										
Personal services	-	-	-	198,734	198,734	-	-	-	268,977	268,977
Fringe	-	-	-	85,058	85,058	-	-	-	115,122	115,122
Travel	-	-	-	614	614	-	-	-	-	-
Subrecipients	-	-	-	-	-	-	-	-	108,254	108,254
Supplies	-	-	-	38,453	38,453	-	-	-	229	229
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	164,998	164,998	-	-	-	156,750	156,750
Other	-	-	-	97,733	97,733	-	-	-	146,983	146,983
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	-	-	-	585,590	585,590	-	-	-	796,315	796,315
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(1,503,325)	(1,503,325)	-	-	-	(1,682,812)	(1,682,812)
Transfers	-	-	-	-	-	-	-	-	(108,254)	(108,254)
Net Change in Fund Balances	-	-	-	(1,503,325)	(1,503,325)	-	-	-	(1,791,066)	(1,791,066)
Fund Balances - June 30, 2021	5,000,000	1,671,812	898,635	5,045,602	12,616,049	5,000,000	2,500,000	174,131	3,496,726	11,170,857
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 1,671,812	\$ 898,635	\$ 3,542,277	\$ 11,112,724	\$ 5,000,000	\$ 2,500,000	\$ 174,131	\$ 1,705,660	\$ 9,379,791

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	Renal Disease Biomarker					Cancer Stem Cell Biology and Therapy				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	200	200
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	200	200
Investment Income										
Realized gain (loss)	-	-	39,362	495,614	534,976	-	-	25,404	551,444	576,848
Unrealized gain (loss)	-	-	(104,453)	(1,252,915)	(1,357,368)	-	-	(78,070)	(1,392,952)	(1,471,022)
Endowment income	-	-	4,957	34,615	39,572	-	-	3,785	38,514	42,299
Total investment income (loss)	-	-	(60,134)	(722,686)	(782,820)	-	-	(48,881)	(802,994)	(851,875)
Total revenue	-	-	(60,134)	(722,686)	(782,820)	-	-	(48,881)	(802,794)	(851,675)
Expenditures										
Personal services	-	-	-	288,211	288,211	-	-	-	48,626	48,626
Fringe	-	-	-	108,322	108,322	-	-	-	19,091	19,091
Travel	-	-	-	402	402	-	-	-	216	216
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	53,185	53,185	-	-	-	165,098	165,098
Contractual	-	-	-	-	-	-	-	-	21,244	21,244
Management fees	-	-	14,753	127,726	142,479	-	-	9,795	142,079	151,874
Other	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	2,424	2,424
Equipment	-	-	-	121,857	121,857	-	-	-	1,948	1,948
Total expenditures	-	-	14,753	699,703	714,456	-	-	9,795	400,726	410,521
Excess (deficiency) of revenues over (under) expenditures	-	-	(74,887)	(1,422,389)	(1,497,276)	-	-	(58,676)	(1,203,520)	(1,262,196)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	(74,887)	(1,422,389)	(1,497,276)	-	-	(58,676)	(1,203,520)	(1,262,196)
Fund Balances - June 30, 2021	5,000,000	1,413,707	1,204,378	2,640,151	10,258,236	5,000,000	1,541,536	651,721	3,694,701	10,887,958
Fund Balances - June 30, 2022	<u>\$ 5,000,000</u>	<u>\$ 1,413,707</u>	<u>\$ 1,129,491</u>	<u>\$ 1,217,762</u>	<u>\$ 8,760,960</u>	<u>\$ 5,000,000</u>	<u>\$ 1,541,536</u>	<u>\$ 593,045</u>	<u>\$ 2,491,181</u>	<u>\$ 9,625,762</u>

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Advanced Tissue Biofabrication*					Medication Safety and Efficacy*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	3,431	519,367	522,798	-	-	-	204,121	204,121
Unrealized gain (loss)	-	-	(10,544)	(1,315,650)	(1,326,194)	-	-	-	(517,617)	(517,617)
Endowment income	-	-	511	36,360	36,871	-	-	-	14,303	14,303
Total investment income (loss)	-	-	(6,602)	(759,923)	(766,525)	-	-	-	(299,193)	(299,193)
Total revenue	-	-	(6,602)	(759,923)	(766,525)	-	-	-	(299,193)	(299,193)
Expenditures										
Personal services	-	-	-	116,732	116,732	-	-	-	28,139	28,139
Fringe	-	-	-	49,728	49,728	-	-	-	11,237	11,237
Travel	-	-	-	-	-	-	-	-	-	-
Subrecipients	-	-	-	132,162	132,162	-	-	-	70,587	70,587
Supplies	-	-	-	-	-	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	1,323	133,883	135,206	-	-	-	52,628	52,628
Other	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	25,417	25,417	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	2,979	2,979
Equipment	-	-	-	-	-	-	-	-	26,856	26,856
Total expenditures	-	-	1,323	457,922	459,245	-	-	-	192,426	192,426
Excess (deficiency) of revenues over (under) expenditures	-	-	(7,925)	(1,217,845)	(1,225,770)	-	-	-	(491,619)	(491,619)
Transfers	-	-	-	(132,162)	(132,162)	-	-	-	(70,587)	(70,587)
Net Change in Fund Balances	-	-	(7,925)	(1,350,007)	(1,357,932)	-	-	-	(562,206)	(562,206)
Fund Balances - June 30, 2021	5,000,000	1,200,000	88,017	3,192,399	9,480,416	2,000,000	600,000	-	1,068,640	3,668,640
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 1,200,000	\$ 80,092	\$ 1,842,392	\$ 8,122,484	\$ 2,000,000	\$ 600,000	\$ -	\$ 506,434	\$ 3,106,434

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SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Prostate Cancer Disparities*					Lipidomics, Pathobiology and Therapy				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	(210)	370,223	370,013	-	-	1,087	646,454	647,541
Unrealized gain (loss)	-	-	(274)	(937,256)	(937,530)	-	-	(3,339)	(1,632,818)	(1,636,157)
Endowment income	-	-	107	25,900	26,007	-	-	162	45,149	45,311
Total investment income (loss)	-	-	(377)	(541,133)	(541,510)	-	-	(2,090)	(941,215)	(943,305)
Total revenue	-	-	(377)	(541,133)	(541,510)	-	-	(2,090)	(941,215)	(943,305)
Expenditures										
Personal services	-	-	-	26,763	26,763	-	-	-	138,392	138,392
Fringe	-	-	-	12,190	12,190	-	-	-	49,307	49,307
Travel	-	-	-	-	-	-	-	-	1,627	1,627
Subrecipients	-	-	-	66,168	66,168	-	-	-	-	-
Supplies	-	-	-	4,430	4,430	-	-	-	101,377	101,377
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	144	95,430	95,574	-	-	419	166,557	166,976
Other	-	-	-	57,500	57,500	-	-	-	14,876	14,876
Tuition assistance	-	-	-	62,045	62,045	-	-	-	1,292	1,292
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	840	840
Equipment	-	-	-	-	-	-	-	-	14,995	14,995
Total expenditures	-	-	144	324,526	324,670	-	-	419	489,263	489,682
Excess (deficiency) of revenues over (under) expenditures	-	-	(521)	(865,659)	(866,180)	-	-	(2,509)	(1,430,478)	(1,432,987)
Transfers	-	-	-	(66,168)	(66,168)	-	-	-	-	-
Net Change in Fund Balances	-	-	(521)	(931,827)	(932,348)	-	-	(2,509)	(1,430,478)	(1,432,987)
Fund Balances - June 30, 2021	3,600,000	1,080,000	9,742	2,205,833	6,895,575	5,000,000	3,451,075	27,872	3,046,148	11,525,095
Fund Balances - June 30, 2022	\$ 3,600,000	\$ 1,080,000	\$ 9,221	\$ 1,274,006	\$ 5,963,227	\$ 5,000,000	\$ 3,451,075	\$ 25,363	\$ 1,615,670	\$ 10,092,108

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SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Inflammation and Fibrosis					Translational Biomedical Informatics				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	163	163	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	163	163	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	7,372	568,844	576,216	-	-	1,435	196,479	197,914
Unrealized gain (loss)	-	-	(22,703)	(1,438,032)	(1,460,735)	-	-	(4,411)	(496,267)	(500,678)
Endowment income	-	-	1,106	39,729	40,835	-	-	214	13,722	13,936
Total investment income (loss)	-	-	(14,225)	(829,459)	(843,684)	-	-	(2,762)	(286,066)	(288,828)
Total revenue	-	-	(14,225)	(829,296)	(843,521)	-	-	(2,762)	(286,066)	(288,828)
Expenditures										
Personal services	-	-	-	182,462	182,462	-	-	-	67,345	67,345
Fringe	-	-	-	74,614	74,614	-	-	-	25,987	25,987
Travel	-	-	-	3,021	3,021	-	-	-	1,050	1,050
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	9,113	9,113	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	2,854	146,600	149,454	-	-	553	50,623	51,176
Other	-	-	-	-	-	-	-	-	7,175	7,175
Tuition assistance	-	-	-	-	-	-	-	-	6,091	6,091
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	37,897	37,897	-	-	-	1,370	1,370
Equipment	-	-	-	-	-	-	-	-	3,514	3,514
Total expenditures	-	-	2,854	453,707	456,561	-	-	553	163,155	163,708
Excess (deficiency) of revenues over (under) expenditures	-	-	(17,079)	(1,283,003)	(1,300,082)	-	-	(3,315)	(449,221)	(452,536)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	(17,079)	(1,283,003)	(1,300,082)	-	-	(3,315)	(449,221)	(452,536)
Fund Balances - June 30, 2021	4,999,999	2,279,049	189,895	3,124,283	10,593,226	2,000,000	600,000	36,825	892,891	3,529,716
Fund Balances - June 30, 2022	\$ 4,999,999	\$ 2,279,049	\$ 172,816	\$ 1,841,280	\$ 9,293,144	\$ 2,000,000	\$ 600,000	\$ 33,510	\$ 443,670	\$ 3,077,180

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
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SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Health Facilities Design and Testing*					Brain Imaging*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	57,123	57,123	-	-	-	108,120	108,120
Fringe	-	-	-	22,781	22,781	-	-	-	43,662	43,662
Travel	-	-	-	-	-	-	-	-	(4,247)	(4,247)
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	1,062	1,062	-	-	-	(308)	(308)
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	3,781	3,781	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	6,030	6,030
Equipment	-	-	-	1,958	1,958	-	-	-	(37,536)	(37,536)
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>86,705</u>	<u>86,705</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>115,721</u>	<u>115,721</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(86,705)	(86,705)	-	-	-	(115,721)	(115,721)
Transfers	-	-	-	119,455	119,455	-	-	-	112,889	112,889
Net Change in Fund Balances	-	-	-	32,750	32,750	-	-	-	(2,832)	(2,832)
Fund Balances - June 30, 2021	-	-	-	418,639	418,639	-	-	-	256,608	256,608
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 451,389</u>	<u>\$ 451,389</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 253,776</u>	<u>\$ 253,776</u>

* Collaborative Center-Clemson Fiscal Agent

* Collaborative Center-USC Fiscal Agent

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
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SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Childhood Neurotherapeutics*					Healthcare Quality*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	-	-
Other contribution revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	72,481	72,481	-	-	-	67,935	67,935
Fringe	-	-	-	31,022	31,022	-	-	-	26,410	26,410
Travel	-	-	-	-	-	-	-	-	-	-
Subrecipients	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	52,245	52,245	-	-	-	2,508	2,508
Contractual	-	-	-	-	-	-	-	-	-	-
Management fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	1,850	1,850
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	-	-	-	-	-	5,000	5,000
Equipment	-	-	-	(40,474)	(40,474)	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>115,274</u>	<u>115,274</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>103,703</u>	<u>103,703</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(115,274)	(115,274)	-	-	-	(103,703)	(103,703)
Transfers	-	-	-	73,101	73,101	-	-	-	97,679	97,679
Net Change in Fund Balances	-	-	-	(42,173)	(42,173)	-	-	-	(6,024)	(6,024)
Fund Balances - June 30, 2021	-	-	-	339,736	339,736	-	-	-	292,682	292,682
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 297,563</u>	<u>\$ 297,563</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 286,658</u>	<u>\$ 286,658</u>

* Collaborative Center-USC Fiscal Agent

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SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
MEDICAL UNIVERSITY OF SOUTH CAROLINA
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Healthful Lifestyles*				Total - Medical University of South Carolina					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
State funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-state matching funds	-	-	-	-	-	-	-	-	6,080	6,080
Other contribution revenue	-	-	-	-	-	-	-	-	14,964	14,964
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>21,044</u>	<u>21,044</u>
Investment Income										
Realized gain (loss)	-	-	-	40,934	40,934	-	-	205,167	9,600,138	9,805,305
Unrealized gain (loss)	-	-	-	(103,381)	(103,381)	-	-	(615,702)	(24,445,921)	(25,061,623)
Endowment income	-	-	-	2,859	2,859	-	-	29,918	674,448	704,366
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(59,588)</u>	<u>(59,588)</u>	<u>-</u>	<u>-</u>	<u>(380,617)</u>	<u>(14,171,335)</u>	<u>(14,551,952)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(59,588)</u>	<u>(59,588)</u>	<u>-</u>	<u>-</u>	<u>(380,617)</u>	<u>(14,150,291)</u>	<u>(14,530,908)</u>
Expenditures										
Personal services	-	-	-	25,203	25,203	-	-	-	3,008,171	3,008,171
Fringe	-	-	-	10,787	10,787	-	-	-	1,239,813	1,239,813
Travel	-	-	-	-	-	-	-	-	77,349	77,349
Subrecipients	-	-	-	-	-	-	-	-	792,090	792,090
Supplies	-	-	-	981	981	-	-	-	556,377	556,377
Contractual	-	-	-	-	-	-	-	-	21,244	21,244
Management fees	-	-	-	10,547	10,547	-	-	79,103	2,478,921	2,558,024
Other	-	-	-	-	-	-	-	-	525,401	525,401
Tuition assistance	-	-	-	-	-	-	-	-	134,770	134,770
Fixed charges	-	-	-	-	-	-	-	-	-	-
Professional & other fees	-	-	-	1,350	1,350	-	-	-	75,978	75,978
Equipment	-	-	-	-	-	-	-	-	171,020	171,020
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>48,868</u>	<u>48,868</u>	<u>-</u>	<u>-</u>	<u>79,103</u>	<u>9,081,134</u>	<u>9,160,237</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(108,456)	(108,456)	-	-	(459,720)	(23,231,425)	(23,691,145)
Transfers	-	-	-	63,513	63,513	-	-	-	(325,453)	(325,453)
Net Change in Fund Balances	-	-	-	(44,943)	(44,943)	-	-	(459,720)	(23,556,878)	(24,016,598)
Fund Balances - June 30, 2021	-	-	-	872,323	872,323	85,599,999	35,496,979	6,189,995	59,147,044	186,434,017
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 827,380</u>	<u>\$ 827,380</u>	<u>\$ 85,599,999</u>	<u>\$ 35,496,979</u>	<u>\$ 5,730,275</u>	<u>\$ 35,590,166</u>	<u>\$ 162,417,419</u>

* Collaborative Center-USC Fiscal Agent

SOUTH CAROLINA CENTERS OF ECONOMIC EXCELLENCE
UNIVERSITY OF SOUTH CAROLINA
SCHEDULE OF PROGRAM REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
YEAR ENDED JUNE 30, 2022

	Nanostructures				Brain Imaging*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	275,428	-	-	275,428	-	-	-	45,641	45,641
Total contribution revenue	<u>-</u>	<u>275,428</u>	<u>-</u>	<u>-</u>	<u>275,428</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>45,641</u>	<u>45,641</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	121,869	121,869	-	-	-	152,336	152,336
Endowment income	-	-	-	(116,904)	(116,904)	-	-	-	(406,217)	(406,217)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>4,965</u>	<u>4,965</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(253,881)</u>	<u>(253,881)</u>
Total revenue	<u>-</u>	<u>275,428</u>	<u>-</u>	<u>4,965</u>	<u>280,393</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(208,240)</u>	<u>(208,240)</u>
Expenditures										
Personal services	-	-	-	82,393	82,393	-	-	-	55,195	55,195
Fringe	-	-	-	19,340	19,340	-	-	-	9,716	9,716
Travel	-	-	-	11,661	11,661	-	-	-	-	-
Contractual	-	-	-	5,506	5,506	-	-	-	45,641	45,641
Supplies	-	-	-	61,253	61,253	-	-	-	7,616	7,616
Tuition assistance	-	-	-	3,434	3,434	-	-	-	8,054	8,054
Fixed charges	-	-	-	-	-	-	-	-	5,133	5,133
Administrative fees	-	-	-	29,154	29,154	-	-	-	26,876	26,876
Other	-	-	-	46,440	46,440	-	-	-	2,449	2,449
Equipment	-	-	-	66,902	66,902	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>326,083</u>	<u>326,083</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>160,680</u>	<u>160,680</u>
Excess (deficiency) of revenues over (under) expenditures	-	275,428	-	(321,118)	(45,690)	-	-	-	(368,920)	(368,920)
Transfers	-	-	-	-	-	-	-	-	(112,889)	(112,889)
Net Change in Fund Balances	-	275,428	-	(321,118)	(45,690)	-	-	-	(481,809)	(481,809)
Fund Balances - June 30, 2021	4,000,000	1,631,274	-	1,804,145	7,435,419	5,000,000	2,102,769	-	1,095,669	8,198,438
Fund Balances - June 30, 2022	<u>\$ 4,000,000</u>	<u>\$ 1,906,702</u>	<u>\$ -</u>	<u>\$ 1,483,027</u>	<u>\$ 7,389,729</u>	<u>\$ 5,000,000</u>	<u>\$ 2,102,769</u>	<u>\$ -</u>	<u>\$ 613,860</u>	<u>\$ 7,716,629</u>

* Collaborative Center

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	Polymer Nanocomposites				Hydrogen Fuel Cell Economy (Innovation)					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ 70,015	\$ 70,015	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	3,000	-	-	3,000	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>3,000</u>	<u>-</u>	<u>70,015</u>	<u>73,015</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	106,636	106,636	-	-	-	152,336	152,336
Endowment income	-	-	-	(329,322)	(329,322)	-	-	-	(277,130)	(277,130)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(222,686)</u>	<u>(222,686)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(124,794)</u>	<u>(124,794)</u>
Total revenue	<u>-</u>	<u>3,000</u>	<u>-</u>	<u>(152,671)</u>	<u>(149,671)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(124,794)</u>	<u>(124,794)</u>
Expenditures										
Personal services	-	-	-	226,628	226,628	-	-	-	160,482	160,482
Fringe	-	-	-	37,913	37,913	-	-	-	54,754	54,754
Travel	-	-	-	9,126	9,126	-	-	-	2,158	2,158
Contractual	-	-	-	15,975	15,975	-	-	-	36,903	36,903
Supplies	-	-	-	15,830	15,830	-	-	-	8,610	8,610
Tuition assistance	-	-	-	31,806	31,806	-	-	-	-	-
Fixed charges	-	-	-	6,023	6,023	-	-	-	338	338
Administrative fees	-	-	-	23,301	23,301	-	-	-	25,875	25,875
Other	-	-	-	-	-	-	-	-	367	367
Equipment	-	-	-	-	-	-	-	-	482	482
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>366,602</u>	<u>366,602</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>289,969</u>	<u>289,969</u>
Excess (deficiency) of revenues over (under) expenditures	-	3,000	-	(519,273)	(516,273)	-	-	-	(414,763)	(414,763)
Transfers	-	-	-	13,811	13,811	-	-	-	-	-
Net Change in Fund Balances	-	3,000	-	(505,462)	(502,462)	-	-	-	(414,763)	(414,763)
Fund Balances - June 30, 2021	3,500,000	1,449,262	12,832	820,397	5,782,491	5,000,000	1,500,000	-	2,470,365	8,970,365
Fund Balances - June 30, 2022	<u>\$ 3,500,000</u>	<u>\$ 1,452,262</u>	<u>\$ 12,832</u>	<u>\$ 314,935</u>	<u>\$ 5,280,029</u>	<u>\$ 5,000,000</u>	<u>\$ 1,500,000</u>	<u>\$ -</u>	<u>\$ 2,055,602</u>	<u>\$ 8,555,602</u>

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	Tourism and Economic Development					Renewable Fuel Cells				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	60,934	60,934	-	-	-	91,402	91,402
Endowment income	-	-	-	(216,551)	(216,551)	-	-	-	(306,553)	(306,553)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(155,617)</u>	<u>(155,617)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(215,151)</u>	<u>(215,151)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(155,617)</u>	<u>(155,617)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(215,151)</u>	<u>(215,151)</u>
Expenditures										
Personal services	-	-	-	152,455	152,455	-	-	-	95,534	95,534
Fringe	-	-	-	37,818	37,818	-	-	-	6,388	6,388
Travel	-	-	-	6,476	6,476	-	-	-	3,600	3,600
Contractual	-	-	-	505	505	-	-	-	11,783	11,783
Supplies	-	-	-	18,019	18,019	-	-	-	12,083	12,083
Tuition assistance	-	-	-	18,859	18,859	-	-	-	45,479	45,479
Fixed charges	-	-	-	1,444	1,444	-	-	-	1,907	1,907
Administrative fees	-	-	-	16,849	16,849	-	-	-	23,725	23,725
Other	-	-	-	(6,831)	(6,831)	-	-	-	4,985	4,985
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>245,594</u>	<u>245,594</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>205,484</u>	<u>205,484</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(401,211)	(401,211)	-	-	-	(420,635)	(420,635)
Transfers	-	-	-	-	-	-	-	-	(13,811)	(13,811)
Net Change in Fund Balances	-	-	-	(401,211)	(401,211)	-	-	-	(434,446)	(434,446)
Fund Balances - June 30, 2021	2,000,000	1,170,000	87	685,802	3,855,889	3,000,000	1,200,000	-	754,830	4,954,830
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 1,170,000</u>	<u>\$ 87</u>	<u>\$ 284,591</u>	<u>\$ 3,454,678</u>	<u>\$ 3,000,000</u>	<u>\$ 1,200,000</u>	<u>\$ -</u>	<u>\$ 320,384</u>	<u>\$ 4,520,384</u>

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YEAR ENDED JUNE 30, 2022

	Solid Oxide Fuel Cells					Childhood Neurotherapeutics*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	23,689	23,689
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>23,689</u>	<u>23,689</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	115,776	115,776	-	-	-	152,336	152,336
Endowment income	-	-	-	(8,587)	(8,587)	-	-	-	(620,180)	(620,180)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>107,189</u>	<u>107,189</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(467,844)</u>	<u>(467,844)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>107,189</u>	<u>107,189</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(444,155)</u>	<u>(444,155)</u>
Expenditures										
Personal services	-	-	-	69,825	69,825	-	-	-	210	210
Fringe	-	-	-	15,295	15,295	-	-	-	86	86
Travel	-	-	-	2,331	2,331	-	-	-	968	968
Contractual	-	-	-	32,239	32,239	-	-	-	10,116	10,116
Supplies	-	-	-	7,195	7,195	-	-	-	19,122	19,122
Tuition assistance	-	-	-	4,502	4,502	-	-	-	-	-
Fixed charges	-	-	-	1,518	1,518	-	-	-	49,552	49,552
Administrative fees	-	-	-	1,902	1,902	-	-	-	-	-
Other	-	-	-	(274)	(274)	-	-	-	23,689	23,689
Equipment	-	-	-	-	-	-	-	-	43,990	43,990
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>134,533</u>	<u>134,533</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>147,733</u>	<u>147,733</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(27,344)	(27,344)	-	-	-	(591,888)	(591,888)
Transfers	-	-	-	-	-	-	-	-	(73,101)	(73,101)
Net Change in Fund Balances	-	-	-	(27,344)	(27,344)	-	-	-	(664,989)	(664,989)
Fund Balances - June 30, 2021	3,000,000	900,000	-	538,811	4,438,811	5,000,000	2,502,066	-	1,751,680	9,253,746
Fund Balances - June 30, 2022	<u>\$ 3,000,000</u>	<u>\$ 900,000</u>	<u>\$ -</u>	<u>\$ 511,467</u>	<u>\$ 4,411,467</u>	<u>\$ 5,000,000</u>	<u>\$ 2,502,066</u>	<u>\$ -</u>	<u>\$ 1,086,691</u>	<u>\$ 8,588,757</u>

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	Rehabilitation and Reconstruction Science (Center for Effectiveness Research in Orthopaedics)					Strategic Approaches to Electricity Production from Coal				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	173,250	173,250	-	-	-	-	-
Total contribution revenue	-	-	-	173,250	173,250	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	152,336	152,336	-	-	-	(393,983)	(393,983)
Endowment income	-	-	3,425	(356,418)	(352,993)	-	-	-	8,096	8,096
Total investment income (loss)	-	-	3,425	(204,082)	(200,657)	-	-	-	(385,887)	(385,887)
Total revenue	-	-	3,425	(30,832)	(27,407)	-	-	-	(385,887)	(385,887)
Expenditures										
Personal services	-	-	132,220	231,505	363,725	-	-	-	181,984	181,984
Fringe	-	-	3,393	47,968	51,361	-	-	-	32,978	32,978
Travel	-	-	292	9,472	9,764	-	-	-	6,884	6,884
Contractual	-	-	84,211	53,118	137,329	-	-	-	7,073	7,073
Supplies	-	-	1,099	9,813	10,912	-	-	-	14,829	14,829
Tuition assistance	-	-	4,376	16,825	21,201	-	-	-	23,364	23,364
Fixed charges	-	-	3,540	3,594	7,134	-	-	-	6,578	6,578
Administrative fees	-	-	-	27,639	27,639	-	-	-	42,515	42,515
Other	-	-	-	-	-	-	-	-	(4,151)	(4,151)
Equipment	-	-	2,631	194	2,825	-	-	-	102,712	102,712
Total expenditures	-	-	231,762	400,128	631,890	-	-	-	414,766	414,766
Excess (deficiency) of revenues over (under) expenditures	-	-	(228,337)	(430,960)	(659,297)	-	-	-	(800,653)	(800,653)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	(228,337)	(430,960)	(659,297)	-	-	-	(800,653)	(800,653)
Fund Balances - June 30, 2021	5,000,000	1,500,000	565,535	831,806	7,897,341	5,000,000	2,520,000	(11,279)	2,114,930	9,623,651
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 1,500,000	\$ 337,198	\$ 400,846	\$ 7,238,044	\$ 5,000,000	\$ 2,520,000	\$ (11,279)	\$ 1,314,277	\$ 8,822,998

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	Healthcare Quality*				Senior SMART™ Center*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	151,091	151,091	-	-	-	35,502	35,502
Total contribution revenue	-	-	-	151,091	151,091	-	-	-	35,502	35,502
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	152,336	152,336	-	-	-	152,336	152,336
Endowment income	-	-	-	(474,584)	(474,584)	-	-	-	(425,262)	(425,262)
Total investment income (loss)	-	-	-	(322,248)	(322,248)	-	-	-	(272,926)	(272,926)
Total revenue	-	-	-	(171,157)	(171,157)	-	-	-	(237,424)	(237,424)
Expenditures										
Personal services	-	-	-	250,084	250,084	-	-	-	65,089	65,089
Fringe	-	-	-	89,249	89,249	-	-	-	14,312	14,312
Travel	-	-	-	4,664	4,664	-	-	-	3,075	3,075
Contractual	-	-	-	7,317	7,317	-	-	-	5,580	5,580
Supplies	-	-	-	5,232	5,232	-	-	-	3,132	3,132
Tuition assistance	-	-	-	22,105	22,105	-	-	-	468	468
Fixed charges	-	-	-	1,526	1,526	-	-	-	4,285	4,285
Administrative fees	-	-	-	36,895	36,895	-	-	-	33,206	33,206
Other	-	-	-	41,620	41,620	-	-	-	25,942	25,942
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	-	-	-	458,692	458,692	-	-	-	155,089	155,089
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(629,849)	(629,849)	-	-	-	(392,513)	(392,513)
Transfers	-	-	-	(97,679)	(97,679)	-	-	-	(104,435)	(104,435)
Net Change in Fund Balances	-	-	-	(727,528)	(727,528)	-	-	-	(496,948)	(496,948)
Fund Balances - June 30, 2021	5,000,000	2,000,000	-	1,538,584	8,538,584	5,000,000	2,000,000	23,972	1,122,094	8,146,066
Fund Balances - June 30, 2022	\$ 5,000,000	\$ 2,000,000	\$ -	\$ 811,056	\$ 7,811,056	\$ 5,000,000	\$ 2,000,000	\$ 23,972	\$ 625,146	\$ 7,649,118

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	Nanoenvironmental Research and Risk Assessment					Nuclear Science and Energy				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	45,610	45,610	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>45,610</u>	<u>45,610</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	91,402	91,402	-	-	-	91,402	91,402
Endowment income	-	-	-	(255,831)	(255,831)	-	-	-	(216,105)	(216,105)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(164,429)</u>	<u>(164,429)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(124,703)</u>	<u>(124,703)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(118,819)</u>	<u>(118,819)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(124,703)</u>	<u>(124,703)</u>
Expenditures										
Personal services	-	-	-	103,989	103,989	-	-	-	239,827	239,827
Fringe	-	-	-	31,415	31,415	-	-	-	31,455	31,455
Travel	-	-	-	1,396	1,396	-	-	-	-	-
Contractual	-	-	-	8,857	8,857	-	-	-	-	-
Supplies	-	-	-	5,731	5,731	-	-	-	-	-
Tuition assistance	-	-	-	11,115	11,115	-	-	-	-	-
Fixed charges	-	-	-	367	367	-	-	-	-	-
Administrative fees	-	-	-	19,945	19,945	-	-	-	16,723	16,723
Other	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>182,815</u>	<u>182,815</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>288,005</u>	<u>288,005</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(301,634)	(301,634)	-	-	-	(412,708)	(412,708)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(301,634)	(301,634)	-	-	-	(412,708)	(412,708)
Fund Balances - June 30, 2021	3,000,000	1,000,000	-	745,828	4,745,828	3,000,000	905,000	-	566,232	4,471,232
Fund Balances - June 30, 2022	<u>\$ 3,000,000</u>	<u>\$ 1,000,000</u>	<u>\$ -</u>	<u>\$ 444,194</u>	<u>\$ 4,444,194</u>	<u>\$ 3,000,000</u>	<u>\$ 905,000</u>	<u>\$ -</u>	<u>\$ 153,524</u>	<u>\$ 4,058,524</u>

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YEAR ENDED JUNE 30, 2022

	General Atomics Center for the Development of Translational Nuclear Technology					Healthful Lifestyles*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	91,402	91,402	-	-	-	91,402	91,402
Endowment income	-	-	-	(294,093)	(294,093)	-	-	-	(103,631)	(103,631)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(202,691)</u>	<u>(202,691)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(12,229)</u>	<u>(12,229)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(202,691)</u>	<u>(202,691)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(12,229)</u>	<u>(12,229)</u>
Expenditures										
Personal services	-	-	-	46,898	46,898	-	-	-	172,666	172,666
Fringe	-	-	-	6,760	6,760	-	-	-	44,263	44,263
Travel	-	-	-	11,182	11,182	-	-	-	2,329	2,329
Contractual	-	-	-	17,800	17,800	-	-	-	10,243	10,243
Supplies	-	-	-	46,126	46,126	-	-	-	824	824
Tuition assistance	-	-	-	7,862	7,862	-	-	-	-	-
Fixed charges	-	-	-	5,630	5,630	-	-	-	8,494	8,494
Administrative fees	-	-	-	23,955	23,955	-	-	-	8,564	8,564
Other	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>166,213</u>	<u>166,213</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>247,383</u>	<u>247,383</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(368,904)	(368,904)	-	-	-	(259,612)	(259,612)
Transfers	-	-	-	-	-	-	-	-	(63,513)	(63,513)
Net Change in Fund Balances	-	-	-	(368,904)	(368,904)	-	-	-	(323,125)	(323,125)
Fund Balances - June 30, 2021	3,000,000	1,410,000	-	1,344,619	5,754,619	3,000,000	465,330	-	743,105	4,208,435
Fund Balances - June 30, 2022	<u>\$ 3,000,000</u>	<u>\$ 1,410,000</u>	<u>\$ -</u>	<u>\$ 975,715</u>	<u>\$ 5,385,715</u>	<u>\$ 3,000,000</u>	<u>\$ 465,330</u>	<u>\$ -</u>	<u>\$ 419,980</u>	<u>\$ 3,885,310</u>

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	Data Analysis, Simulation, Imaging, and Visualization					Multiphysics Heterogeneous Engineered Materials Center				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	60,934	60,934	-	-	-	60,934	60,934
Endowment income	-	-	-	(339,116)	(339,116)	-	-	-	(817,689)	(817,689)
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>(278,182)</u>	<u>(278,182)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(756,755)</u>	<u>(756,755)</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>(278,182)</u>	<u>(278,182)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(756,755)</u>	<u>(756,755)</u>
Expenditures										
Personal services	-	-	-	68,532	68,532	-	-	-	17,148	17,148
Fringe	-	-	-	14,573	14,573	-	-	-	3,982	3,982
Travel	-	-	-	2,043	2,043	-	-	-	362	362
Contractual	-	-	-	990	990	-	-	-	8,356	8,356
Supplies	-	-	-	4,852	4,852	-	-	-	18,722	18,722
Tuition assistance	-	-	-	-	-	-	-	-	9,497	9,497
Fixed charges	-	-	-	1,976	1,976	-	-	-	-	-
Administrative fees	-	-	-	27,269	27,269	-	-	-	63,290	63,290
Other	-	-	-	-	-	-	-	-	2,518	2,518
Equipment	-	-	-	-	-	-	-	-	6,629	6,629
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>120,235</u>	<u>120,235</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>130,504</u>	<u>130,504</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(398,417)	(398,417)	-	-	-	(887,259)	(887,259)
Transfers	-	-	-	-	-	-	-	-	-	-
Net Change in Fund Balances	-	-	-	(398,417)	(398,417)	-	-	-	(887,259)	(887,259)
Fund Balances - June 30, 2021	2,000,000	1,582,098	-	1,797,591	5,379,689	2,000,000	3,750,000	-	1,697,469	7,447,469
Fund Balances - June 30, 2022	<u>\$ 2,000,000</u>	<u>\$ 1,582,098</u>	<u>\$ -</u>	<u>\$ 1,399,174</u>	<u>\$ 4,981,272</u>	<u>\$ 2,000,000</u>	<u>\$ 3,750,000</u>	<u>\$ -</u>	<u>\$ 810,210</u>	<u>\$ 6,560,210</u>

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	Advanced Tissue Biofabrication*					Cancer Drug Discovery*				
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	-	-	-	-	-	-	-	-	-	-
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	-	-	-	-	-	-	-	-	-	-
Total revenue	-	-	-	-	-	-	-	-	-	-
Expenditures										
Personal services	-	-	-	-	-	-	-	-	30,000	30,000
Fringe	-	-	-	-	-	-	-	-	5,539	5,539
Travel	-	-	-	-	-	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	5,202	5,202
Supplies	-	-	-	-	-	-	-	-	21,844	21,844
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	-	-	-	-	-	-	-	-	62,585	62,585
Excess (deficiency) of revenues over (under) expenditures	-	-	-	-	-	-	-	-	(62,585)	(62,585)
Transfers	-	-	-	66,081	66,081	-	-	-	61,728	61,728
Net Change in Fund Balances	-	-	-	66,081	66,081	-	-	-	(857)	(857)
Fund Balances - June 30, 2021	-	-	-	416,814	416,814	-	-	-	267,278	267,278
Fund Balances - June 30, 2022	\$ -	\$ -	\$ -	\$ 482,895	\$ 482,895	\$ -	\$ -	\$ -	\$ 266,421	\$ 266,421

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	Clinical Effectiveness and Patient Safety*				Translational Cancer Therapeutics*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	51,722	51,722	-	-	-	44,183	44,183
Fringe	-	-	-	6,853	6,853	-	-	-	10,815	10,815
Travel	-	-	-	2,357	2,357	-	-	-	3,181	3,181
Contractual	-	-	-	-	-	-	-	-	66,505	66,505
Supplies	-	-	-	1,578	1,578	-	-	-	17,567	17,567
Tuition assistance	-	-	-	14,622	14,622	-	-	-	2,468	2,468
Fixed charges	-	-	-	-	-	-	-	-	12	12
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	26,011	26,011	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>103,143</u>	<u>103,143</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>144,731</u>	<u>144,731</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(103,143)	(103,143)	-	-	-	(144,731)	(144,731)
Transfers	-	-	-	71,118	71,118	-	-	-	118,715	118,715
Net Change in Fund Balances	-	-	-	(32,025)	(32,025)	-	-	-	(26,016)	(26,016)
Fund Balances - June 30, 2021	-	-	-	248,628	248,628	-	-	-	56,669	56,669
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 216,603</u>	<u>\$ 216,603</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 30,653</u>	<u>\$ 30,653</u>

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	Medication Safety & Efficacy*				Prostate Cancer Disparities*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	8,623	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>8,623</u>	<u>8,623</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>8,623</u>	<u>8,623</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	30,380	30,380	-	-	-	-	-
Fringe	-	-	-	8,197	8,197	-	-	-	-	-
Travel	-	-	-	5,945	5,945	-	-	-	-	-
Contractual	-	-	-	-	-	-	-	-	-	-
Supplies	-	-	-	-	-	-	-	-	-	-
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	-	-
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	6,348	6,348	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>50,870</u>	<u>50,870</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(42,247)	(42,247)	-	-	-	-	-
Transfers	-	-	-	70,587	70,587	-	-	-	66,168	66,168
Net Change in Fund Balances	-	-	-	28,340	28,340	-	-	-	66,168	66,168
Fund Balances - June 30, 2021	-	-	-	(20,207)	(20,207)	-	-	7,750	415,303	423,053
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 8,133</u>	<u>\$ 8,133</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 7,750</u>	<u>\$ 481,471</u>	<u>\$ 489,221</u>

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YEAR ENDED JUNE 30, 2022

	Regenerative Medicine*				Stroke*					
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	Total
Contribution Revenue										
Non-state matching funds	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Other contributions/revenue	-	-	-	-	-	-	-	-	-	-
Total contribution revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Investment Income										
Realized gain (loss)	-	-	-	-	-	-	-	-	-	-
Unrealized gain (loss)	-	-	-	-	-	-	-	-	-	-
Endowment income	-	-	-	-	-	-	-	-	-	-
Total investment income (loss)	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Total revenue	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
Expenditures										
Personal services	-	-	-	113,360	113,360	-	-	-	23,528	23,528
Fringe	-	-	-	28,722	28,722	-	-	-	4,512	4,512
Travel	-	-	-	-	-	-	-	-	5,359	5,359
Contractual	-	-	-	84	84	-	-	-	100	100
Supplies	-	-	-	3,469	3,469	-	-	-	3,770	3,770
Tuition assistance	-	-	-	-	-	-	-	-	-	-
Fixed charges	-	-	-	-	-	-	-	-	196	196
Administrative fees	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	2,024	2,024
Equipment	-	-	-	-	-	-	-	-	-	-
Total expenditures	<u>-</u>	<u>-</u>	<u>-</u>	<u>145,635</u>	<u>145,635</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>39,489</u>	<u>39,489</u>
Excess (deficiency) of revenues over (under) expenditures	-	-	-	(145,635)	(145,635)	-	-	-	(39,489)	(39,489)
Transfers	-	-	-	81,679	81,679	-	-	-	108,254	108,254
Net Change in Fund Balances	-	-	-	(63,956)	(63,956)	-	-	-	68,765	68,765
Fund Balances - June 30, 2021	-	-	-	126,259	126,259	-	-	-	380,387	380,387
Fund Balances - June 30, 2022	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 62,303</u>	<u>\$ 62,303</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 449,152</u>	<u>\$ 449,152</u>

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	Total - University of South Carolina				Total
	State Endowment	Non-state Endowment	Non-state Expendable	Endowment Earnings	
Contribution Revenue					
Non-state matching funds	\$ -	\$ -	\$ -	\$ 70,015	\$ 70,015
Other contributions/revenue	-	278,428	-	483,406	761,834
Total contribution revenue	-	278,428	-	553,421	831,849
Investment Income					
Realized gain (loss)	-	-	-	-	-
Unrealized gain (loss)	-	-	-	1,504,126	1,504,126
Endowment income	-	-	3,425	(5,556,077)	(5,552,652)
Total investment income (loss)	-	-	3,425	(4,051,951)	(4,048,526)
Total revenue	-	278,428	3,425	(3,498,530)	(3,216,677)
Expenditures					
Personal services	-	-	132,220	2,513,617	2,645,837
Fringe	-	-	3,393	562,903	566,296
Travel	-	-	292	94,569	94,861
Contractual	-	-	84,211	349,893	434,104
Supplies	-	-	1,099	307,217	308,316
Tuition assistance	-	-	4,376	220,460	224,836
Fixed charges	-	-	3,540	98,573	102,113
Administrative fees	-	-	-	447,683	447,683
Other	-	-	-	171,137	171,137
Equipment	-	-	2,631	220,909	223,540
Total expenditures	-	-	231,762	4,986,961	5,218,723
Excess (deficiency) of revenues over (under) expenditures	-	278,428	(228,337)	(8,485,491)	(8,435,400)
Transfers	-	-	-	192,713	192,713
Net Change in Fund Balances	-	278,428	(228,337)	(8,292,778)	(8,242,687)
Fund Balances - June 30, 2021	66,500,000	29,587,799	598,897	24,315,088	121,001,784
Fund Balances - June 30, 2022	\$ 66,500,000	\$ 29,866,227	\$ 370,560	\$ 16,022,310	\$ 112,759,097



Our mission in *motion*

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OUR MISSION

The South Carolina SmartState Program[®] serves the public's 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 non-state sources to fund endowments for specialized research professorships. These professorships in turn serve as the nucleus for unique, university based research centers that 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.



WELCOME FROM THE SMARTSTATE REVIEW BOARD

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

To My Fellow South Carolinians,

Welcome to the SmartState® Review Board's 2021-22 annual report, *Our Mission in Motion*. This year, we celebrated our 20th year as the SmartState Program of Economic Excellence. In celebration of this incredible milestone, we have dedicated this year's report to our Program's mission to build our state's knowledge economy and sustain a lifetime of economic prosperity for all of South Carolina. Inside this report, we reflect on how we have succeeded in our mission over the last 20 years, how we are fulfilling our mission today, and how we envision our continued commitment in the future.

Our Program received incredible support from General Assembly at this year's legislative breakfast. I invite you to turn to page 16 to read more about this successful event and our celebratory Council of Chairs Forum that culminated our 20 year celebration. During this celebration and legislative breakfast, we asked our state's leaders to reflect on the vision that the General Assembly so carefully established two decades ago, and consider reviving that vision so our state can continue to foster innovation and workforce development at a global level.

Inside this report, you'll find features highlighting accomplishments from each of our three research

universities. These stories are merely a glimpse into the scale of research that is happening on our campuses. There are many incredible discoveries occurring within these SmartState Programs every day. I am proud to be a part of such an esteemed Program that has received international recognition and millions of dollars in national funding over the last two decades.

I want to give a special thanks to all those who support us, and acknowledge the vision of the South Carolina's General Assembly members in creating this extraordinary SmartState Program. It is through our Program's leadership, financial generosity, collaborative business partnerships, and tireless research efforts that this state-of-the-art establishment is able to fulfill its promise to our state—a promise of an improved knowledge economy, a robust workforce with higher paying jobs, and a distinguished reputation for our state. We look forward to seeing what this Program continues to do for South Carolina's future!



Karoly "Charles" Kerekes, Vice Chair
SmartState Review Board
Appointed by the Governor



MEET THE BOARD



Karoly (Charles) Kerekes
*Appointed by
the Governor*



Lisa Main
*Appointed by the
Speaker of the House*



Robert W. Pearce, Jr.
*Appointed by the
Speaker of the House*



Melvin C. Williams
*Appointed by the President Pro
Tempore of the Senate*



Roberta Bankhead Wood
*Appointed by the Chairman,
House Ways & Means Committee*

ABOUT OUR PROGRAM

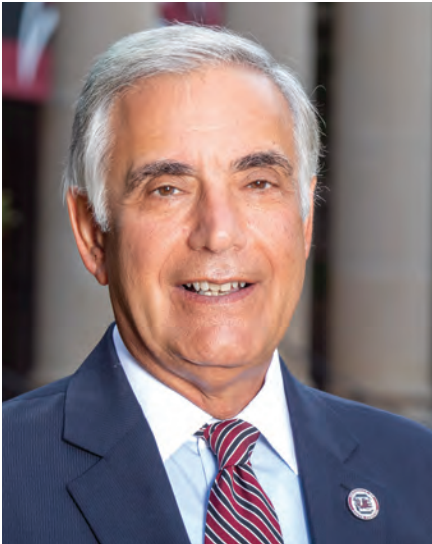
Our Mission in Motion is the theme selected for this year's SmartState® Program annual report. For more than two decades, our state's three major research universities, healthcare systems, and private businesses have built our state's knowledge economy through this Program. By way of job creation, research grants, and innovation through commercialization, SmartState is sustaining a lifetime of economic prosperity for all of South Carolina. Thanks to the legislature's incredible leadership and nourishment of this Program for more than 20 years, the SmartState Centers have achieved a magnitude of unprecedented research developments, economic prosperity, and international recognition for the state of South Carolina.

Composed of world-class researchers, scientists, and experts, the Endowed Chairs Program has grown to include 74 Endowed Chairs at 51 Centers, raising nearly \$3.9 billion dollars over the last two decades. Using our research universities as its drivers, this multiprong economic development strategy has allowed South Carolina to grow our talent pool, while expanding business investments within our state. Simultaneously, the SmartState Program has attracted others from outside our state to invest in our economy. The Program has remained steadfast, achieving great accomplishments amidst persevering through the challenges of the last 20 years, including technological advancements, economic booms and recessions, demographic shifts, climate change, social changes, and most recently a global pandemic.

One of the most magnificent qualities of the SmartState Program has been its ability to bring about job creation and economic growth for South Carolina. As Joey Von Nessen, Ph.D., comments on page 12, the SmartState's employment multiplier effect is much higher than the average industry in South Carolina. He reported that SmartState has created 19,465 jobs with the average salary of \$77,613. Von Nessen also notes the return on investment of the SmartState Program is \$3.9 billion since its inception, an extremely noteworthy measurement of success for our Program.

Through research and education, partnerships and investment from businesses, and the attraction of federal research dollars, SmartState has pivoted the South Carolina to one of international competitiveness. We invite you to turn the page and read more about the remarkable people and happenings that made this year, and the last 20 years of this Program, what it is today. It is our hope that our state's leaders will see the value of this economic ecosystem that's been nourished and constructed to advance the betterment of our state and its people.





HARRIS PASTIDES, PH.D., MPH
*Interim President
 University of South Carolina*

“For two decades, the University of South Carolina has been a proud part of the visionary alliance that created the SmartState Centers for Economic Excellence. During the earliest years of the program, I was serving as the university’s Vice President for Research, engaging with our faculty researchers to develop competitive proposals that would spark the imagination of businesses and entrepreneurs across South Carolina and lead to productive partnerships. SmartState has served the state of South Carolina well through the collaborative efforts of our legislature, our senior research universities, and the business sector. Together, we have invested in critical research, promoted innovation, fostered the development of new businesses, and created jobs and economic opportunities statewide.”



DAVID J. COLE, M.D., FACS
*President
 Medical University of South Carolina*

“As we continue to transform MUSC and the health care landscape in South Carolina, we also recognize the incredible opportunity to simultaneously grow the knowledge-based economy across our state. The South Carolina SmartState® Program is a critical component to recruiting and retaining world-class experts who, through collaboration and innovation, are key to MUSC’s ability to deliver on our mission of education, research and patient care.”



JAMES P. CLEMENTS, PH.D.
*President
 Clemson University*

“The SmartState® Program continues to have a profound impact on South Carolina, through building the state’s knowledge economy and driving economic growth. For more than two decades, this program has been creating opportunities and connecting partners across industry and education to increase South Carolina’s competitiveness in a global economy. Clemson University is proud to be a part of the SmartState® Program, which is making a difference across this great state.”

The First SmartState Center Funded by the General Assembly Continues to Chart New Courses by Welcoming Quantum Materials Expert, Dr. Rongying Jin

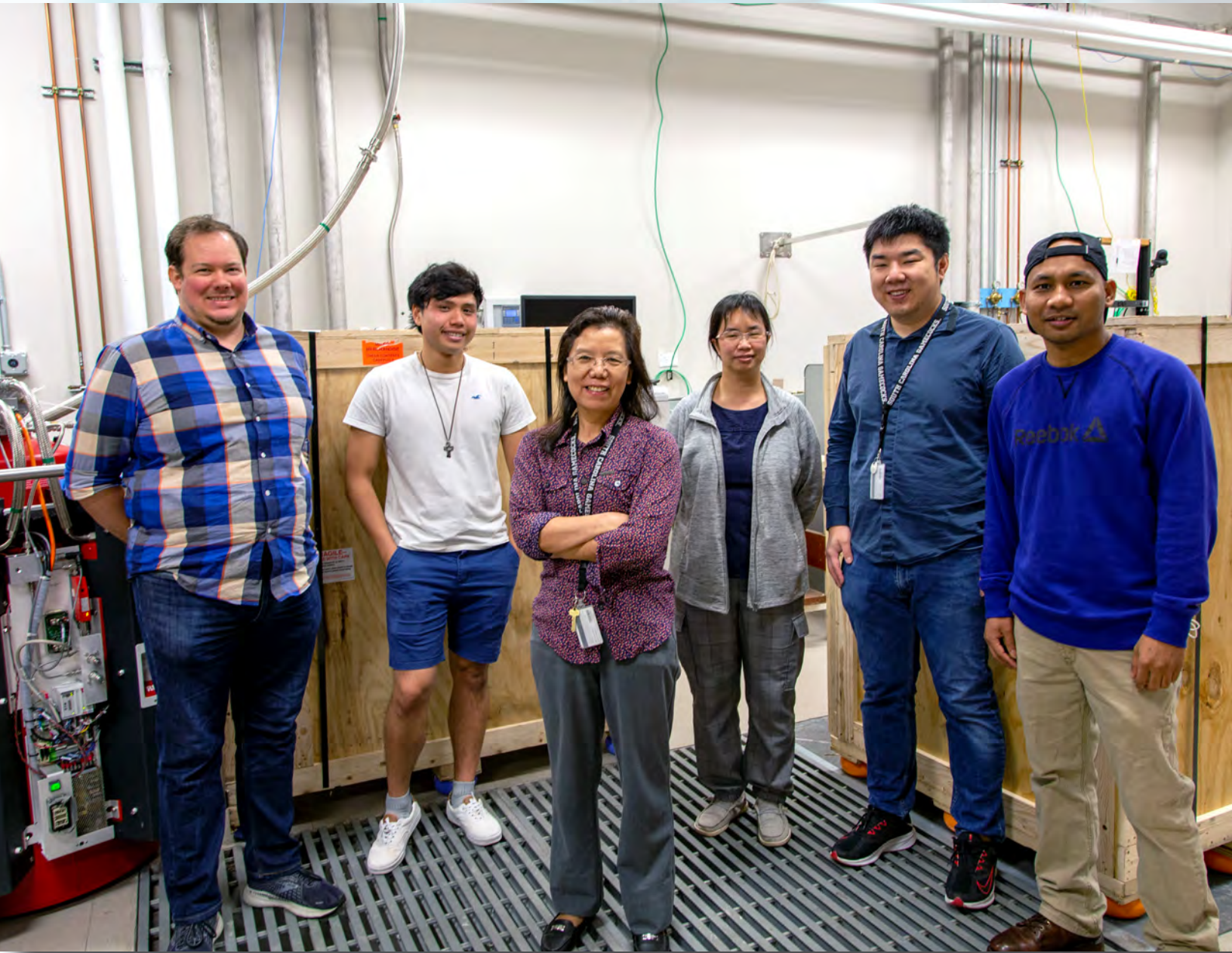
The SmartState Center for Experimental Nanoscale Physics, based in the University of South Carolina (USC) Department of Physics and Astronomy, is a Center of many firsts. It was the first SmartState Center funded after the South Carolina General Assembly passed the Research Centers of Economic Excellence Act in 2002. It set precedence with another first when Richard A. Webb joined the Physics and Astronomy faculty in 2004 as the first SmartState Chair in South Carolina and the only member of the National Academy of Sciences at USC. During his tenure at Carolina, he created a top-quality facility for nanoelectronics research, while simultaneously recruiting five current faculty members to Physics and Astronomy to build the Condensed Matter Physics group.

Center personnel have created experimental and theoretical research programs in diverse areas ranging from magnetism to surface science and photonics. Unfortunately, Webb passed away in early 2016, one week after teaching his first class of that spring semester. Despite a delay in early 2020 due to COVID-19, the search for a new endowed chair had strong success, recruiting Professor Rongying Jin, formerly in the Department of Physics and Astronomy at Louisiana State University, to USC beginning in August 2021.

Rongying Jin, Ph.D., is a fellow of both the American Association for the Advancement of Science and the American Physical Society. She received her M.S. in Physics from the University of Shanghai for Science

and Technology. After postings at the Institute of Physics in the Chinese Academy of Sciences and as a visiting scholar at the University of Cambridge supported by the British Royal Society, she received her Ph.D. in Physics from the Laboratory for Solid State Physics at ETH-Zürich in 1997. She's worked at educational institutions, including Pennsylvania State University, the University of Tennessee, and Louisiana State University (LSU). In addition to her prestigious society fellowships, Dr. Jin has received numerous research awards including four awards from LSU and an extension to one of her National Science Foundation awards given for special creativity.

When asked about what she's most looking forward to in joining the Physics and Astronomy faculty at USC, Dr. Jin says, "This group has such strong potential. The opportunity to help the team that is already in place realize their potential and achieve research excellence in the future was too good a chance to pass up. Webb built a strong program here and I feel that a focus on quantum materials going forward will cement his legacy, one defined by his measurements of the Aharonov-Bohm effect in mesoscopic gold rings. In fact, the explosion in quantum materials arose by identifying the role played by the nontrivial Berry Phase and topology in the Aharonov-Bohm effect. I intend to continue Aharonov and Webb's South Carolina legacy by building a team that creates new understanding of quantum materials and phenomena, taking them from the laboratory to the real world of applications."



Rongying Jin, Ph.D. (third from left), Endowed Chair for Experimental Nanoscale Physics

Sophie Paczesny of Cancer Stem Cell Biology & Therapy Center Receives Multiple Grants to Improve Patient Treatments

MUSC Hollings Cancer Center researcher Sophie Paczesny, M.D., Ph.D., who is the Endowed Chair for Cancer Stem Cell Biology and Therapy Center, has proven to be a pioneer in her field and is earning many grants to support her research. In January 2022, Dr. Paczesny received a \$628,188 grant from the National Cancer Institute (NCI) to use machine learning algorithms to improve graft-versus-host disease (GVHD) treatment strategies. Her studies will validate biomarker panels that may help doctors to determine each bone marrow transplant patient's risk of developing chronic GVHD and adjust his or her immune suppression treatments accordingly.

Bone marrow transplants are a potentially curative therapy for blood and bone marrow cancers, such as leukemia. The donor immune cells kill the cancer, but they may also recognize the recipient's normal cells. This leads to GVHD, which reportedly occurs in over 30% of patients surviving more than 100 days after receiving a bone marrow transplant (BMT). Chronic GVHD remains the most common long-term complication for BMT recipients.

Dr. Paczesny, who is chair of the Department of Microbiology and Immunology, as well as co-leader of the Cancer Immunology Program at Hollings Cancer Center, said, "Despite modern advances, up to 50% of bone marrow transplant patients still develop chronic GVHD. We cure leukemia but give the patient another disease. Currently, there are no validated laboratory tests to determine which patients are more likely to develop chronic GVHD. This grant is designed to address a major

challenge in the treatment of chronic GVHD, since validated biomarkers improve doctors' ability to personalize treatments."

In February 2022, Dr. Paczesny received a four-year grant from the National Heart, Lung, and Blood Institute to investigate solutions to help doctors to fight complications after pediatric bone marrow transplantation (BMT). The \$625,635 grant will allow Paczesny and her team to explore biomarkers and a new type of immune cell that may help to identify and regulate acute lung injury after BMT.

Paczesny said this grant responds to the urgent need for research on pulmonary complications of BMT in children. "My goal is to improve our understanding of the signaling mechanisms in lung injury after BMT, particularly as they relate to idiopathic pneumonia syndrome," says Dr. Paczesny. Understanding the complex biological connections that lead to disease helps researchers to find treatments that address challenging clinical problems. Michell Hudspeth, M.D., Hollings researcher and director of the MUSC Division of Pediatric Hematology/Oncology, said this work is important in affecting outcomes for her patients.

"Dr. Paczesny's work in defining how these pathways contribute to lung injury has the potential to make great impact on the standard of care for pediatric BMT patients. If we can better diagnosis transplant-related complications and identify therapeutic targets, we can improve overall survival rates for our patients."



Dr. Sophie Paczesny, Endowed Chair for Cancer Stem Cell Biology and Therapy Center

U.S. Government Commits up to \$100M to Clemson's Virtual Prototyping of Ground Systems

\$40M has already been invested to support Clemson University's Virtual Prototyping of Ground Systems (VIPR-GS) Center on the CU-ICAR campus. The Center, which is under the leadership of Zoran Filipi, Ph.D., Timken Endowed Chair in Vehicle System Design is a research hub focused on simulation tools and methodologies for the rapid design and prototyping of autonomy-enabled off-road vehicles in virtual environments.

Clemson University and the United States Army DEVCOM Ground Vehicle Systems Center (GVSC) announced \$22 million for a research partnership aimed at developing innovative virtual prototyping tools for designing the next generation of on- and off-road vehicles, with the U.S. government committing up to \$100 million to the project. The U.S. Army contributed an initial \$18 million for the center in 2020. An additional \$22 million committed in 2021 was formally obligated on February 24, 2022. The Virtual Prototyping of autonomy-enabled Grounds Systems (VIPR-GS) Research Center at Clemson University is providing new simulation and digital engineering capabilities, as well as hardware demonstrations to increase efficiency in design-to-build processes in support of GVSC's ambitious goals for rapid modernization of U.S. Army fleets.

Clemson University President Jim Clements and U.S. Army GVSC chief scientist David Gorsich made the announcement. They were joined by U.S. Senator

Lindsey Graham and Dr. Filipi. The announcement took place at the Clemson University International Center for Automotive Research (CU-ICAR) campus in Greenville, S.C. in February 2022.

Research at the VIPR-GS Center is focused on autonomy-enabled ground vehicles, next-generation propulsion and energy systems, manned and unmanned teaming in unpredictable off-road environments, innovative simulations, and digital engineering tools to design off-road vehicle fleet's systems of systems. The Department of Automotive Engineering's hallmark Deep Orange program in the College of Engineering, Computing and Applied Sciences at Clemson engages students in hardware demonstrations and will provide a full-scale testbed for validating research outcomes.

"Part of our DNA in Clemson Engineering is the commitment to work on things that matter, transform and save lives," says Dr. Filipi. "Rapid transformation of vehicle systems, on- or off-road, calls on us to do just that, develop digital engineering tools that will dramatically accelerate the design cycle and unleash tremendous potential for innovation. We appreciate the grand challenge brought to us by Dr. Gorsich and GVSC and could not be more excited about the opportunities to be at the forefront of research and experiential learning in the automotive space."



Dr. Zoran Filipi, Timken Endowed Chair in Vehicle System Design



The Economic Impact of the SmartState Program

“Despite the fact that South Carolina was hit hard by the pandemic-induced recession of 2020, the state’s economy has nevertheless remained resilient and has maintained a steady pace of recovery throughout 2021. A major driver of these positive trends has been the resilience of the knowledge economy itself, which experienced far fewer relative job losses compared to the state as a whole. The fastest growing regions in the United States throughout the 21st century have been those with a strong and vibrant knowledge economy, and this trend will likely continue in the coming decade. The SmartState Program plays a pivotal role in sustaining the ongoing development of this knowledge economy in the Palmetto State, and since 2002, has generated over 19,000 jobs with annual salaries that pay significantly above the state average.”

— Dr. Joseph Von Nessen, Research Economist, Darla Moore School of Business, University of South Carolina

The primary mission of the SmartState Program is to generate high-skilled, high wage jobs in South Carolina. The research centers established by SmartState funding help to expand the state’s knowledge base, create public-private partnerships, support startup firms, and help retain highly talented workers. The SmartState Program actively supports the ongoing development of the knowledge economy — and jobs in the knowledge economy are among the highest paid of all industries in South Carolina. The creation of high wage jobs across the state has continued to help South Carolina remain an attractive location for job seekers and economic expansion.

The knowledge economy relies heavily on intellectual capital. In general, professions within the knowledge economy are highly technical and typically require extensive academic training in mathematics and science as well as the ability to engage in complex problem solving. Tasks are often both theoretical and practical, combining the creative skills necessary for innovation and technological development with the practical knowledge of commercializing new ideas, which is what leads to regional economic growth and development. The intellectual talents required for jobs in these professions are highly sought after across the world, and regions with high concentrations of these professions generate enormous human capital resources and knowledge spillover effects.

As of 2021, the SmartState Program is responsible for helping to create and support approximately 19,465 jobs in South Carolina, which are associated with approximately \$3.9 billion in economic activity and \$1.2 billion in labor income for South Carolinians that would not exist otherwise. Approximately 7,446 (38%) of these positions are knowledge economy jobs created directly through

the SmartState Program, with the remaining 12,019 (62%) arising from additional spending activity generated through the economic multiplier effect.

The specific employment multiplier associated with these estimates is 2.6 — for every 10 knowledge economy jobs directly created through the SmartState Program, an additional 16 jobs are created elsewhere in South Carolina. This multiplier effect is well above the state average — that is — each new job created through the SmartState Program increases total South Carolina employment by more than it would if that job had been created in another industry of comparable size.

The average annual salary associated with a SmartState job in the knowledge economy is \$77,613. This is approximately 61 percent higher than the average annual salary among all jobs in South Carolina. When examining the salaries of all jobs associated with the SmartState Program — including those created through the economic multiplier effect — the average annual salary is estimated to be \$59,360. This dollar amount is approximately 23 percent higher than the average annual salary among all South Carolina jobs.

Two key drivers for economic growth and development in the 21st century are innovation and technological development. The SmartState Program creates and supports program centers designed specifically to encourage both of these activities through investments in research and development, startup companies, company recruitment, and retaining talented alumni. Ultimately, it is an ongoing expansion of the knowledge economy that will create additional high wage, high skilled jobs for South Carolinians — and the SmartState Program has clearly become a state leader in these efforts.



SmartState Program[®]

By The Numbers³

3

Research Universities
Clemson, MUSC, USC

6

Industry Clusters¹

51

SmartState[®] Centers of
Economic Excellence

74

SmartState Endowed
Chairs appointed
(of the 85 created)

\$197.6M

State Funds Invested²

\$3.9B

Return on Investment³

19,465

Total Employment (All jobs)³

\$77,613

Average Salary of a Knowledge
Economy Job³

111

Start-ups and Corporate
Relocations⁴

¹ Industry-focused research is conducted in six areas of global importance: Advanced Materials and Nanotechnology, Automotive and Transportation, Biomedical, Energy, Information Science, and Pharmaceutical.

² Includes \$180 million from the State Education Lottery appropriations and \$17.6 million accrued interest from SmartState Program[®] endowment.

³ The figures reported are from the November 2021 Economic Impact of the SmartState Program[®] analysis conducted by the Darla Moore School of Business. Of the total 19,465 jobs, 7,446 are knowledge economy jobs created directly through the SmartState[®] Program, including 812 SmartState personnel, 1,191 start-up company and corporate relocation personnel, and 5,443 employed through Extramural Research Funding and alumni. The remaining 12,019 jobs are indirect employment arising from the economic multiplier effect.

⁴ See page 15 for a listing of investors, start-ups and corporate relocations.

Investors, Start-ups, and Corporate Relocations in S.C.

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
- Duke Energy Foundation
- Electric Cooperatives of South Carolina
- Fluor Corporation
- Force Protection Industries
- G. E. Renewable
- General Atomics
- George B. Sibert Annuity
- GlaxoSmithKline
- Greenville Hospital System
- Health Sciences South Carolina
- J.E. Serrine Foundation
- Kellogg Foundation
- Kentwool
- Michelin
- Okuma
- Orbis
- Oshkosh Corporation
- Palmetto Health
- PalmettoNet
- Research to Prevent Blindness
- Robert Wood Johnson Foundation
- Samuel Freeman / Donaldson Charitable Trust
- Santee Cooper
- Smith & Nephew
- Spartanburg Regional
- SRNL Healthcare System
- The Duke Endowment
- The Spaulding Paolozzi Foundation
- Timken
- Toyota
- Volvo
- Westinghouse
- ZF

START-UP COMPANIES

Start-up companies founded as a result of research at USC, MUSC, and Clemson University:

- 52 Inc.
- Adhere Ly LLC
- Advanced Photonic Crystals
- Career Care Solutions
- Cephos
- Cicadia
- Clinacuity
- Closing the Gap in Healthcare, Inc.
- Coastal Focus Market Research Company
- DF Werke, LLC
- Dokbot LLC
- Doxy.me
- eCAM
- ENCI Therapeutics and NeuroEpiginex, LLC
- FibroBiologics, LLC
- Fibro Therapeutics, Inc.
- First String Research
- GeoMat, LLC
- Glycoph, LLC
- Gruthan Bioscience
- Hydrogen Hybrid Mobility, LLC
- ImmoMod, Inc.
- InDepth Pharmaceuticals
- Inquisatex Epitherapeutics, LLC
- IntrusinMyFamily.com
- Light Solutions, LLC
- Lydex Pharmaceuticals
- MagAssemble, LLC
- MicroVide
- MitoChem Therapeutics, LLC
- MitoHealth, Inc.
- Neuroene Therapeutics
- NeuroEpiginex, LLC
- NextGenEn
- NXT
- Oncocyclix, LLC
- Oncology Analytics
- Palmetto Fuel Cell Technologies, LLC
- Palmetto Green
- Parallel Permeation, Inc.
- Patient Guided Health Solutions, LLC
- Perfect Mixing, LLC
- Protara, LLC
- SAGE Energy Solutions
- Schnellgen, Inc.
- SemiAllogen, Inc
- SimTunes, LLC
- Simulation Training Solutions, LLC
- Smart Innovations, LLC
- South Carolina Science Solutions, LLC
- Specialty & Custom Fibers, Inc.
- Sycamore Biopharm, LLC
- Tetramer Technologies
- Vortex Biotechnology Corporation
- Zeriscope, Inc

CORPORATE RELOCATIONS

Companies that have relocated to South Carolina to benefit from the expertise, resources, and graduates in the SmartState Program®:

- A. Berger
- American Titanium Works (ATW) Manufacturing
- American Titanium Works (ATW) Technology Center
- BMW Information Technology Research Center (ITRC)
- CADFEM U.S.*
- CECAS
- CGF
- COE Optics
- Change2Target
- CleanEnergy
- Computech*
- Cooliemon Technologies*
- C-P-S Group
- CU Corporate Foundation
- DreamWeaver*
- EHD Tech
- Environment and Health Inc. (EHG)
- Esys Automation
- Fields Group, LLC.*
- Focus Chemicals*
- Formel D
- FSI - Advanced Research
- Greenway Energy, LLC
- In-tech
- Innovation
- IndySoft
- Intec U.S. Inc.
- Intellectual Capital Group
- International Mold Co.
- JTEKT Technology Center
- Mallet Technology*
- Michelin
- Michelin Incubator
- MTC Federal Credit Union
- Mumford Industries*
- OmniSource
- OncoCube Therapeutics
- Parkway Products
- People Link
- Proterra, Inc.
- RESA (AIG-Clemson)
- Roding*
- Sage Automotive Interiors*
- SC Manufacturing Alliance
- SC Research Authority (SCRA)
- Senex Biotechnology, Inc.
- Simpack, Inc.
- SMT
- SWJ Breilman
- ThermoPur Technologies*
- Tigges*
- Tenin Holding
- Toho Tenax*
- TR Fastenings
- Trulite

* In May 2012, CU-ICAR (Clemson University International Center for Automotive Research) opened the doors to the Center for Emerging Technologies (CET) facility, its first multitenant building. CET provides office, administrative, and laboratory space for transportation, technology, and energy sectors. These companies have positioned themselves on the CU-ICAR campus to be close to the SmartState Endowed Chairs and their research teams.



SmartState Chairs Celebrate 20 Year Anniversary with Council of Chairs Forum and Legislative Breakfast

The legacy of the SmartState® Program is not only the positive infrastructure that has been built by the program over the last 20 years, but also the extraordinary level of innovation and workforce development that has been created in our state. The SmartState legacy has been etched in the groundbreaking research conducted by world-renown experts recruited to the University of South Carolina, Clemson University, and the Medical University of South Carolina. In turn, the SmartState endowed chairs have built economic growth and competitive advantage on a global scale. They have fostered a knowledge economy that has created a bigger narrative for our state's future. In short, SmartState has laid the groundwork for a better tomorrow in South Carolina.

The first-of-its-kind program celebrated its 20th anniversary with an evening reception on May 10, 2022 and a milestone Legislative Breakfast and Council of Chairs Forum that was held in Columbia, S.C., on May 11. The Legislative Breakfast was hosted at the South Carolina State House, and the Forum was conducted at the Darla Moore School of Business at the University of South Carolina.

"I am honored to be a part of the SmartState story," says Laura B. Cardinal, Ph.D., who is the Chair of the Council of Chairs, Endowed Chair of SC Innovates® and who also served as the Forum's M.C. "What a moment in history to be here today reflecting on the last 20 years of success this program has experienced."

The Council of Chairs Forum took place at the Moore School where Rusty Monhollon, President and Executive Director of the South Carolina Commission on Higher Education, welcomed participants to the Council of Chairs Forum and acknowledged the program's exceptional worth for continued funding and support from the legislature.

"The SmartState Program is building the next generation of workforce development for South Carolina. I was thrilled to see the turnout we had at this morning's breakfast. What a great networking opportunity for us to promote our mission and ask for continued funding," remarked Monhollon. "As we see the work research students have presented here today, we take a glimpse into the future. They are the young blood moving forward. It is thanks to

Industry Panelists from L to R: Scott Unger, Toray Industries; John E.P. Morrison, E4 Carolinas; Michel van Tooren, Ph.D., Collins Aerospace; W. McLeod "Mac" Rhodes, McLeod Lumber Company; Christina Grek, Ph.D., Xequel Bio; Mark Hamann, Ph.D., MUSC





programs like SmartState that make this possible. It is my promise to you that I will continue to advocate for its funding at every chance I get.”

The Forum boasted a well-received session from Joey Von Nessen, Ph.D., research economist from the Moore School, who spoke about the SmartState economic impact across South Carolina. “To be successful, our state requires a workforce to engage in innovation and commercialization. Regions of South Carolina and the country in general that are growing at the fastest rate have strong and vibrant knowledge economies with plentiful natural resources. The economic impact of this program is evident in our state’s employment numbers and labor income, both which reflect economic prosperity.”

Von Nessen explained the SmartState’s employment multiplier effect, and that its employment generation is much higher than the average industry in South Carolina. He reported that SmartState has created 19,465 jobs with the average salary of \$77,613. He says the return on investment of the SmartState Program is \$3.9 billion since its inception.

“The bottom line,” says Von Nessen, “is that SmartState continues to support growth and development of a knowledge-based economy, which contributes to higher rates of economic growth and quality of life for South Carolina.”

Participants enjoyed enlightening dialogue with an industry panel, many of who spoke at various times throughout the day. The panel discussed with the audience the importance of collaboration among researchers, universities and businesses. The panel discussed different types of models and examples of how this collaboration works. The panel kept things intriguing with their shared perspectives being complimentary and yet also unique. Overall, the panel discussed that fundamentally, academia and industry don’t understand each other, but through this SmartState connection, a fusion can be made as a meaningful step in the other direction to create a knowledge-based economy with workforce development and economic success. The panel continued discussions on the knowledge-based connection that SmartState has built in SC. van Tooren spoke to the triangle of academia, industry, and government and how they work together to feed one another. The moderator was Lori McMahon, Ph.D., Vice President for Research, Medical University of South Carolina.

The SC Commission on Higher Education would like to thank the team that helped organized this successful milestone event: Dr. Argentini Anderson and Ms. Kenita Pitts-Howard (CHE Staff); Dr. Laura Cardinal, Kevin Diana, and Richard White (USC staff); Lynn M. Veatch and Rachel Mehard (MUSC staff) and Kristin Foster (Clemson staff). Without their help, this gathering would not have been possible.

“
*Legacy is not what I did for myself.
It is what I am doing for the next generation.*

— Vitor Belfort

Photos by Forrest Clonts and Michelle Rashid



SmartState Legislative Breakfast H I G H L I G H T S

The SmartState legislative breakfast welcomed an astounding number of senators, representatives, and staff members—more than 70 in fact—who dropped in to learn more about the SmartState mission and how this program continues to move our state forward in the way of economic development and job creation. It was catered by the award-winning Executive Pastry Chef, Geoffrey Blount from the Culinary Institute of Myrtle Beach. Blount, who was a 2019 Food Network finalist, supplied handmade pastries and fresh brewed coffee for breakfast attendees. Total, more than 100 people participated in the breakfast.

“Many of our current legislators were not in office when SmartState began 20 years ago,” says

Cardinal. “This anniversary gathering allowed us to expose our program to those who might not be familiar with all of our achievements and milestones. It was a great opportunity to reacquaint the legislators with SmartState and share our returns on their investments over the last 20 years.”

Rusty Monhollon of the Commission on Higher Education thanked all those who joined SmartState for the breakfast to learn more about the program. “I encourage all of us to spread the word and continue the conversations about all the good the SmartState Program does for our state,” he said. “It is beyond the walls of this room that the Program comes to life, but it is the support from those in this room that helps make our Program successful!”





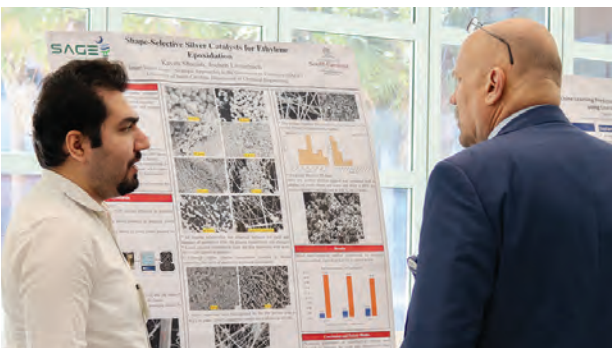
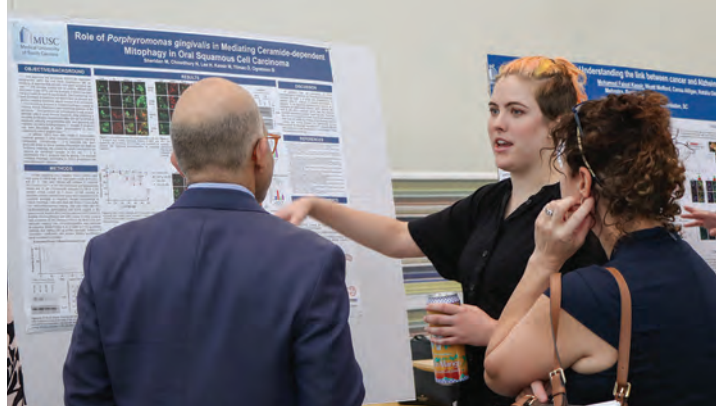
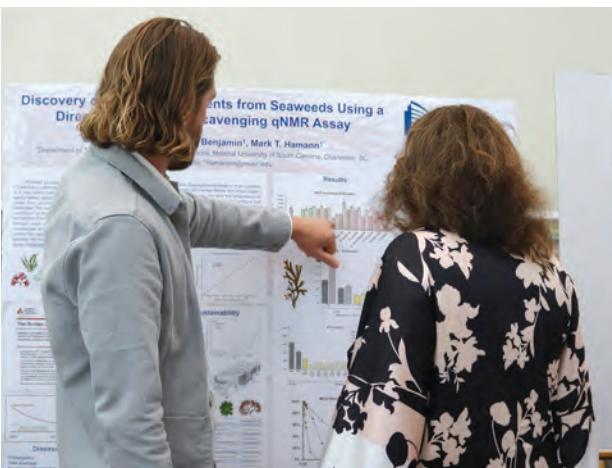
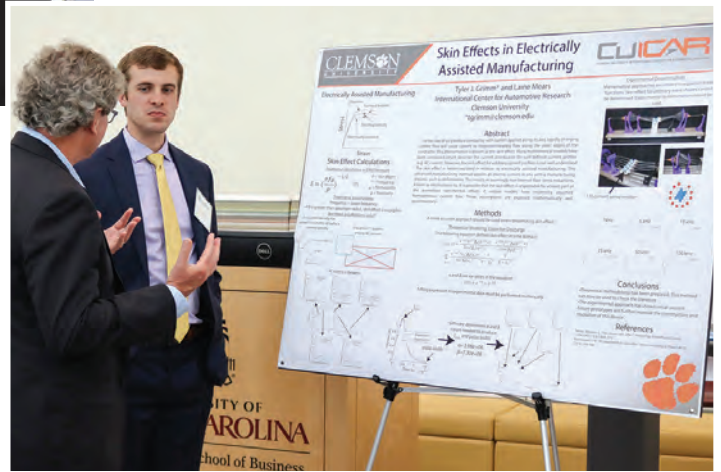
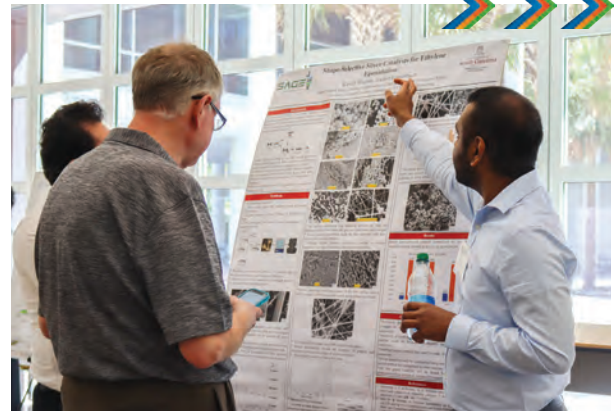
Photos by Forrest Clonts and Michelle Rashid



Our Mission in Motion

In reflecting on the past 20 years, it is evident that the SmartState Program has driven economic development and allowed South Carolina to grow its talent pool, while expanding business investments within the state. As we look toward the future, SmartState promises to remain steadfast in achieving great accomplishments for the state of South Carolina. With the magnitude of incredible leadership, unprecedented research developments, increased economic prosperity, and the esteemed international recognition, there is no doubt that SmartState has—and will continue—to do great things for the people of South Carolina. We look forward to moving this mission forward for the next 20 years as we remain a key ingredient to a healthy South Carolina economy.





Photos by Forrest Clonts and Michelle Washid



SMARTSTATE PROGRAM®

Centers and Endowed Chairs

The work of South Carolina's SmartState Centers is exciting, groundbreaking, and of critical importance to the state, nation and world. These Centers, which align with industries in South Carolina, help elevate the state's economy and quality of life. What follows is an overview of each Center.

Program totals reported as of November 2022. In cases of joint proposals, Centers awarded by an institution are tallied by the fiscal agent. Endowed chairs are tallied based on the assigned institution. USC's assigned endowed chairs include one joint appointment with MUSC and Clemson. On the pages that follow, information about each SmartState Center includes the date the center was approved, the institution(s) awarded, the

state award amount that must be matched with an equal amount of non-state investment, the appointed endowed chair(s) as of November 2022, reported extramural research funding (federal and private awards) above the match, and a brief description of the research focus. Centers are grouped by industry cluster. For updated information on centers and program totals, contact the S.C. Commission on Higher Education.

- 51** SmartState Program® Centers Awarded
- 85** SmartState Endowed Chairs Created
- 74** SmartState Endowed Chairs Appointed
- 11** SmartState Endowed Chairs Remaining to be Appointed



- 13** Awarded
- 16** Created
- 15** Appointed
- 01** Remaining



- 18** Awarded
- 27** Created
- 21** Appointed
- 06** Remaining



- 20** Awarded
- 42** Created
- 38** Appointed
- 04** Remaining



ADVANCED FIBER-BASED MATERIALS*

Award Date: 2006

State Award Amount: \$4 million

University: Clemson

Endowed Chair(s):

Dr. Marek Urban

J.E. Serrine Textile Foundation Endowed Chair in Advanced Fiber-Based Materials

Corporate Partner(s):

J.E. Serrine Textile Foundation

External Funding Above Match:

\$15.5 million

Research Focus: To provide the vehicle for repositioning existing research and manufacturing resources to support new industrial and entrepreneurial opportunities based on advanced polymeric-based materials.

ENVIRONMENTAL NANOSCIENCE AND RISK*

Award Date: 2008

State Award Amount: \$3 million

University: USC

Endowed Chair(s):

Dr. Jamie Lead

External Funding Above Match:

\$5.9 million

Research Focus: Understand the fundamental properties of nanomaterials and nanomaterials-environment interaction and use these principles to understand and help reduce impacts of nanomaterials used as well as develop and innovate nanotechnological applications.

EXPERIMENTAL NANOSCALE PHYSICS*

Award Date: 2003

State Award Amount: \$4 million

University: USC

Endowed Chair(s):

Dr. Rongying Jin

External Funding Above Match:

\$6.3 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.

MULTIFUNCTIONAL MATERIALS & STRUCTURES (MFMS)*

Award Date: 2013

State Award Amount: \$2 million

University: USC

Endowed Chair(s):

Multifunctional Materials is recruiting one endowed chair.

External Funding Above Match:

\$13.4 million

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 of research and development include: Lightning strike and EMF management, structural integrity, energy storage, essential power for commercial aircraft, and multiphysics-based micro/nano mechanics of dielectric materials.

OPTICAL MATERIALS/PHOTONICS*

Award Date: 2004

State Award Amount: \$5 million

University: Clemson

Endowed Chair(s):

Dr. John Ballato

J. E. Serrine Textile Foundation Endowed Chair in Optical Fiber

Corporate Partner(s):

J.E. Serrine Textile Foundation

External Funding Above Match:

\$35 million

Research Focus: Conduct optical and photonic materials research, particularly as relates to advanced optical fibers and fiber-based devices, and recruit and mentor graduate students with a focus on domestic scholars. Identify and foster the latest technologies 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 firms to South Carolina.

POLYMER NANOCOMPOSITES*

Award Date: 2004

State Award Amount: \$3.5 million

University: USC

Endowed Chair(s):

USC Materials Science & Engineering is recruiting one endowed chair.

Corporate Partner(s):

Michelin North American, BASF, U.S. Navy, PBI Performance Products

External Funding Above Match:

\$18.5 million

Research Focus: Development of synthetic tools needed to control the environment precisely or interface between nanoparticles and polymer matrix applicable to optics, electronics, biological, medical, and structural material applications.

***Graduated Center**

Once a center has reached a point of full operability, the SmartState Review Board has the authority to graduate SmartState centers. A center must meet the requirements in the following key areas to be considered graduated: non-state match; all draw downs; endowed chairs and key personnel; initiatory programmatic activities have been achieved; the most recent annual report cites demonstrable programmatic activity; and match certification. Once a center is graduated, the majority of fiscal and administrative oversight responsibilities are transferred to the center's lead fiscal institution. Certain accountability and reporting obligations are retained by the graduated center.

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 and Development

Corporate Partner(s):

Hertz Corporation, Duke Energy

External Funding Above Match:
\$14 million

Research Focus: Focuses on the research and design of advanced powertrains for internal combustion engines and hybrid and electric vehicles, along with lightweight design and materials, functional integration and structural dynamics for vehicles.

AUTOMOTIVE MANUFACTURING*

Award Date: 2003

State Award Amount: \$5 million

University: Clemson

Endowed Chair(s):

Dr. Laine Mears

BMW Endowed Chair in Automotive Manufacturing

Corporate Partner(s):

BMW

External Funding Above Match:
\$17.2 million

Research Focus: Seeks to reinvent the vehicle production system through developing processes inspired by car designs (transitioning from Design-for-Manufacturing thinking to Manufacturing-for-Design), and augmenting existing process capital through smarter model based control and applying energy fields to overcome material limitations. The guiding goals of this research are to improve productivity, reduce downtime, enhance quality, and more effectively integrate the human to the emerging digital information network.

AUTOMOTIVE SYSTEMS INTEGRATION*

Award Date: 2003

State Award Amount: \$5 million

University: Clemson

Endowed Chair(s):

Dr. Chris Paredis, Clemson

BMW Endowed Chair in Automotive Systems Integration

Corporate Partner(s):

BMW, Mazda, GM and others

External Funding Above Match:
\$9.5 million

Research Focus: Automotive diagnostics and prognostics, sustainable mobility, concepts, methods and tools. Deriving a simple, flexible energy management control strategy for plug-in hybrid electric vehicles.

SUPPLY CHAIN OPTIMIZATION AND LOGISTICS*

Award Date: 2005

State Award Amount: \$2 million

University: Clemson

Endowed Chair(s):

Clemson is recruiting the Fluor Endowed Chair in Supply Chain Optimization & Logistics

Corporate Partner(s):

Fluor

External Funding Above Match:
\$16.3 million

Research Focus: Interdisciplinary research addressing the multifaceted problems associated with supply chains. Deliver tangible supply chain optimization 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(s):

Dr. Venkat Krovi

Michelin Endowed Chair in Vehicle Electronic Systems Integration

Corporate Partner(s):

Michelin

External Funding Above Match:
\$5.8 million

Research Focus: Research to enable intravehicle and V2X automation, at subsystem, system, and system-of-systems levels, for automotive and vehicular applications.



ADVANCED TISSUE BIOFABRICATION

Award Date: 2007

State Award Amount: \$5 million

Universities: MUSC, USC, Clemson

Endowed Chair(s):

Dr. Bruce Gao, Clemson
SmartState Endowed Chair in Biofabrication Engineering

Dr. Henry Sucov, MUSC
Endowed Chair in Biofabrication Biology

USC is recruiting an Endowed Chair in Biofabrication Engineering

External Funding Above Match: \$672,993

Research Focus: Develop innovative technologies and approaches that will enable repair, replacement, or restoration of diseased cells, tissues and organs.

BRAIN IMAGING*

Award Date: 2003

State Award Amount: \$5 million

Universities: USC, MUSC

Endowed Chair(s):

Dr. Chris Rorden, USC
Endowed Chair in Neuroimaging

External Funding Above Match: \$52.1 million

Research Focus: Creating a world-class brain imaging center. Initiated the first study using transcranial magnetic stimulation (TMS). Combined with functional MRI, TMS provides a short strong magnetic field useful for studying how the brain works. Specific studies include stroke-related brain injury and MRI physics techniques for clinical and neuroscience research.

CHILDHOOD NEUROTHERAPEUTICS*

Award Date: 2006

State Award Amount: \$5 million

Universities: USC, MUSC

Endowed Chair(s):

Dr. Jeffery Twiss, USC
Child and Adolescent Neurochemistry

USC is recruiting an endowed chair in Translational Clinical Research

Dr. Bobby Thomas, MUSC
Neurodevelopmental Disorders

USC is recruiting an endowed chair in Childhood Neurotherapeutics

External Funding Above Match: \$13.8 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 functional development outcomes, which may someday help children with ADHD.

CLINICAL EFFECTIVENESS AND PATIENT SAFETY*

Award Date: 2006

State Award Amount: \$5 million

Universities: USC, MUSC

Endowed Chair(s):

Dr. Jihad Obeid, MUSC
Biomedical Informatics

Dr. Cynthia Corbett, USC
Endowed Chair in Health Informatics Quality and Safety Evaluation

Dr. Catherine D. Tobin, MUSC
Endowed Chair in Patient Simulation and Research at the Medical University of South Carolina

External Funding Above Match: \$12.9 million

Research Focus: Quality and safety of patient care, and improving the medical informatics aspects of data acquisition and the 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.

EFFECTIVENESS RESEARCH IN ORTHOPEDICS (CERoTho)

Award Date: 2007

State Award Amount: \$5 million

University: USC

Endowed Chair(s):

Dr. John Brooks

Corporate Partner(s):

Smith & Nephew

External Funding Above Match: \$17.3 million

Research Focus: Medical health needs in orthopaedic disorders, exercise and sports related injury prevention, treatment, and rehabilitation. The Center investigates the biologics of tissue-engineered materials and implantable devices to find solutions to musculoskeletal maladies.

*Graduated Center

 **Biomedical****BIOMARINE ENVIRONMENTAL AND COASTAL HEALTH PROGRAM (BEACH)**

Award Date: 2003

State Award Amount: \$4 million

Universities: MUSC, College of Charleston

Endowed Chair(s):
Dr. Michael G. Janech, MUSC
Marine Environmental Biology

Alexander Alekseyenk, MUSC/CofC
Environmental and Biomedical Panomics

External Funding Above Match:
\$12 million

Research Focus: 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.

HEALTHCARE QUALITY*

Award Date: 2007

State Award Amount: \$5 million

Universities: MUSC, USC

Endowed Chair(s):
Dr. Les Lenert, MUSC
Medical Bioinformatics

Dr. Xiaoming Li, USC
Translational Clinical Research

Corporate Partner(s):
The Duke Endowment

External Funding Above Match:
\$33.5 million

Research Focus: 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.

HEALTH FACILITIES DESIGN AND TESTING

Award Date: 2007

State Award Amount: \$2 million

Universities: Clemson, MUSC

Endowed Chair(s):
Dr. Anjali Joseph, Clemson
SmartState Endowed Chair in Architecture and Health Research

Dr. Kenneth Catchpole, MUSC
Clinical Practice and Human Factors

External Funding Above Match:
\$6.3 million

Research Focus: The impact of the built environment on health and healthcare delivery and the creation of architectural settings that promote health, safety, and the wellbeing of all users.

INFLAMMATION AND FIBROSIS RESEARCH*

Award Date: 2010

State Award Amount: \$5 million

University: MUSC

Endowed Chair(s):
Dr. Carol Feghali-Bostwick
Kitty Trask Holt Endowed Chair for Scleroderma Research

Dr. Betty Tsao
Inflammation Research

External Funding Above Match:
\$48.3 million

Research Focus: Develop new therapies and education programs for inflammatory and fibrosing rheumatic diseases such as lupus, scleroderma, and rheumatoid arthritis.

MOLECULAR PROTEOMICS IN CARDIOVASCULAR DISEASE AND PREVENTION*

Award Date: 2006

State Award Amount: \$5 million

University: MUSC

Endowed Chair(s):
Dr. Amy Bradshaw, MUSC
Michael R. Zile Endowed Chair in Molecular Proteomics

Dr. Sheldon E. Litwin
Countess Alicia Spaulding Palozzi Chair in Cardiovascular Imaging

Dr. Thomas G. DiSalvo
Volpe SmartState Endowed Chair in Cardiovascular Biomarker Development for Diagnosis & Prevention

External Funding Above Match:
\$8.6 million

Research Focus: Translation advances in basic bench science to clinical bedside care to improve the health care of the citizens 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.

NEUROSCIENCE

Award Date: 2003

State Award Amount: \$3 million

University: MUSC

Endowed Chair(s):
Dr. Mark Stacey
William E. Murray Endowed Chair in Neuroscience

Dr. Vanessa Hinson
Josephine Tucker Morse Endowed Chair in Parkinson's Disease

Dr. Gonzalo Revuelta
Endowed Chair in Neurodegenerative Diseases

External Funding Above Match:
\$20.8 million

Research Focus: 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.

*Graduated Center



PROSTATE CANCER DISPARITIES

Award Date: 2008

State Award Amount: \$3.6 million

Universities: MUSC, USC, SCSU

Endowed Chair(s):

Ashish Deshmukh

AT&T Distinguished Endowed Chair in Cancer Equity in Cancer Disparities

Dr. Marvella Ford, MUSC/SCSU

Cancer Disparities

USC is recruiting one endowed chair in Cancer Disparities.

Corporate Partner(s): AT&T Foundation

External Funding Above Match: \$52.7 million

Research Focus: Facilitate statewide partnerships in cancer prevention and control research, clinical trials, and training to significantly decrease disparities in prostate cancer incidence and mortality in South Carolina.

PROTEOMICS*

Award Date: 2003

State Award Amount: \$4 million

University: MUSC

Endowed Chair(s):

Dr. Richard Drake

Endowed Chair in Proteomics

Dr. Anand S. Mehta

Endowed Chair in Proteomic Biomarkers

External Funding Above Match: \$25.1 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(s):

Dr. Martin Morad, USC

BlueCross BlueShield of SC Foundation Chair in Cardiovascular Health

Dr. Stephen Duncan, MUSC

Regenerative Medicine and Cell Biology

Dr. Jeremy Gilbert, Clemson

Hansjörg Wyss Endowed Chair in Bioengineering

External Funding Above Match: \$45.3 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 orthopaedic and neural diseases. Regeneration of tissue and organs for repairing, replacing, and maintaining organ function.

RENAL DISEASE BIOMARKERS

Award Date: 2008

State Award Amount: \$5 million

University: MUSC

Endowed Chair(s):

Dr. Oleg Palygin, MUSC

Renal Biomarkers

Newton C. Brackett, Jr. MD

Endowed chair in Translational Nephrology Research.

External Funding Above Match: \$8.2 million

Research Focus: Identifying biomarkers that identify or predict prognosis for acute kidney injury, diabetic neuropathy, lupus nephritis, and focal segmental alomerulosclerosis.

SENIORSMART®

Award Date: 2007

State Award Amount: \$5 million

Universities: USC, Clemson

Endowed Chair(s):

Dr. Sue Levkoff, USC

SmartHOME®

Dr. Julius Fridriksson, USC

SmartBRAIN™

Dr. Lesley Ross, CU

SmartLIFE®

External Funding Above Match: \$17 million

Research Focus: Three areas of research include: *SmartBRAIN™* (maintaining intellectual activity), *SmartWHEELS™* (independent mobility outside the home) and *SmartHOME®* (independent mobility inside the home) to foster independent living among seniors.

*Graduated Center

 **Biomedical****STROKE*****Award Date:** 2007**State Award Amount:** \$5 million**Universities:** MUSC, USC**Endowed Chair(s):**Robert Adams, MUSC
*Stroke*Dr. Mark Chimowitz, MUSC
*Countess Alicia Paolozzi Endowed
Chair in Translational Neurology*Dr. Souvik Sen, USC
*Clinical Neurology***External Funding Above Match:**
\$31.6 million**Research Focus:** Enhancing stroke treatment, prevention, and recovery. This Center is developing new stroke-related therapeutics, drug discovery, and biotechnology, and is a leader in stroke telemedicine.**TECHNOLOGY CENTER TO ENHANCE HEALTHFUL LIFESTYLES*****Award Date:** 2009**State Award Amount:** \$3 million**Universities:** MUSC, USC**Endowed Chair(s):**Dr. Kenneth Ruggiero, MUSC
*Technology Applications for Disease
Prevention, Management, and Risk
Reduction*Dr. Delia West, USC
*Technology Application for Health Behavior
Change***External Funding Above Match:**
\$18.5 million**Research Focus:** Develop and test lifestyle interventions for improving health, preventing illness and managing chronic health problems caused by physical inactivity, poor diets, and other lifestyle behaviors.**TOBACCO-RELATED MALIGNANCY****Award Date:** 2007**State Award Amount:** \$5 million**University:** MUSC**Endowed Chair(s):**Dr. Nancy DeMore
*BMW Chair in Cancer Research*Dr. John Wrangle
*The Burtschy Family Distinguished
Endowed Chair in Lung Cancer Research.***Corporate Partner(s):**
BMW**External Funding Above Match:**
\$77.8 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 specificity 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 Endowed Chair in
Translational Biomedical Informatics**External Funding Above Match:**
\$539,697**Research Focus:** The new Center will provide expertise in translational biomedical informatics essential for cutting-edge, innovative methodologies to link genetic/genomic data with vast amounts of clinical data. The contributions of the center to data sharing/analysis will decrease cost and increase efficiency in research and healthcare delivery and provide a robust IT platform for industry partnerships and new company formation.**VISION SCIENCE****Award Date:** 2005**State Award Amount:** \$4.5 million**University:** MUSC**Endowed Chair(s):**Dr. Baerbel Rohrer
*Chair in Gene and Pharmaceutical
Treatment of Retinal Degenerative Diseases*Dr. Yiannis Koutalos
*Barbara and Stanley Andrie Endowed Chair
in Bioengineering and Vision Research.***Corporate Partner(s):** Alcon Labs,
Taligen, Alexion Pharmaceuticals**External Funding Above Match:**
\$30.1 million**Research Focus:** New treatments for macular degeneration, development of new anti-glaucoma agents and innovations in cataract surgery. The Center also focuses on using advances in bioengineering and material sciences to improve the diagnosis, treatment, and prevention of eye diseases.

*Graduated Center



CATALYSIS FOR RENEWABLE FUELS*

Award Date: 2005

State Award Amount: \$3 million

Universities: USC

Endowed Chair(s):

Dr. John Regalbuto

External Funding Above Match:
\$14.8 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 DEVELOPMENT OF TRANSLATIONAL NUCLEAR TECHNOLOGY*

Award Date: 2009

State Award Amount: \$3 million

University: USC

Endowed Chair(s):

Dr. Theodore Besmann
Energy and Nuclear Security

Corporate Partner(s):
General Atomics

External Funding Above Match:
\$45 million

Research Focus: The production of biofuels and coal 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 associated with recycling used fuel.

NUCLEAR SCIENCE AND ENERGY

Award Date: 2008

State Award Amount: \$3 million

Universities: USC

Endowed Chair(s):

Dr. Dan Gabriel Cacuci
Nuclear Power and Advanced Materials

Corporate Partner(s):
Duke Energy, Progress Energy, SCANA, Westinghouse

External Funding Above Match:
\$7.3 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(s):

Dr. Johan Enslin
Duke Energy Endowed Chair in Smart Grid Technology

Corporate Partner(s):
Duke Energy

External Funding Above Match:
\$8.9 million

Research Focus: Develop technology to better plan and operate electric power systems.

SOLID OXIDE FUEL CELLS*

Award Date: 2006

State Award Amount: \$3 million

Universities: USC

Endowed Chair(s):

Dr. Kevin Huang, USC
Solid Oxide Fuel Cells

External Funding Above Match:
\$60.1 million

Research Focus: Develop solid oxide fuel cells for use in large, high-power systems such as industrial sites and electricity generating stations as well as for mobile power for computers, cell phones, and other electronics.

STRATEGIC APPROACHES TO THE GENERATION OF ELECTRICITY (SAGE)*

Award Date: 2007

State Award Amount: \$5 million

Universities: USC

Endowed Chair(s):

Dr. Jochen Lauterbach

External Funding Above Match:
\$14.2 million

Research Focus: Developing, improving, and advancing technologies to enhance the environmental performance of electricity production. Other work focuses on converting CO₂ to chemicals, fuel cell and hydrogen storage-related research, and chemical production from coal to biomass.

*Graduated Center

Information Science

CYBERINSTITUTE

Award Date: 2008

State Award Amount: \$2 million

Universities: Clemson

Endowed Chair(s):

Kuang-Ching "KC" Wang

C. Tycho Howle Endowed Chair in Collaborative Computing Environments

Corporate Partner(s):

Omnibond Systems, LLC

External Funding Above Match:

\$7.6 million

Research Focus: Connecting research and scholarship, particularly in interdisciplinary aspects of high-performance computing, networking, and data storage; the security of information systems and networks; human-computer interactions; interpretation; and visualization to the commercial sector via strategic industrial partnerships. Conduct research in conjunction with the Clemson University Cyber-Institute.

DATA ANALYSIS, SIMULATION, IMAGING, AND VISUALIZATION

Award Date: 2010

State Award Amount: \$2 million

Universities: USC

Endowed Chair(s):

USC is recruiting the Williams-Hedberg-Hedberg Chair of Mathematics

External Funding Above Match:

\$3.3 million

Research Focus: Develop technology for transforming data into knowledge concentrating on inline data processing, multi-sensor data acquisition, tissue modeling, atomic scale modeling, and bioimaging.

INNOVATION AND COMMERCIALIZATION

Award Date: 2004

State Award Amount: \$5 million

University: USC

*Graduated Center

Endowed Chair(s):

Dr. Laura B. Cardinal
Discovery and Innovation

Corporate Partner(s):

Fluor Foundation and Savannah River Nuclear Solutions LLC

External Funding Above Match:

\$19.8 million

Research Focus: The innovation, commercialization, and new venture development of research in the SmartState Centers, leading to technology commercialization and transfer activities in collaboration with business organizations and public sector stakeholders.

OPTOELECTRONICS*

Award Date: 2008

State Award Amount: \$2 million

University: Clemson

Endowed Chair(s):

Dr. Eric Johnson
PalmettoNet Endowed Chair in Optoelectronics

Corporate Partner(s):

Advanced Photonic Crystal, Tetramer Technologies

External Funding Above Match:

\$13.1 million

Research Focus: Improving devices, systems, and protocols used in high-speed optical communications networks.

SUSTAINABLE DEVELOPMENT*

Award Date: 2010

State Award Amount: \$4 million

University: Clemson

Endowed Chair(s):

Dr. Mark Johnson
Thomas F. Hash '69 Endowed Chair in Sustainable Development

External Funding Above Match:

\$6.5 million

Research Focus: Developing new technologies to support real-time monitoring and management of

natural and built environments through the Intelligent River® Project. The Center has created wireless sensor networks that can reliably monitor and transmit environmental data in near real time.

TOURISM AND ECONOMIC DEVELOPMENT*

Award Date: 2005

State Award Amount: \$2 million

University: USC

Endowed Chair(s):

Dr. Lori Pennington-Gray

Corporate Partner(s):

Rawle Murdy
US Travel Association (USTA)

External Funding Above Match:

\$601,297

Research Focus: Tourism is a \$17 billion industry in South Carolina. The Center conducts cutting-edge tourism and hospitality research initiatives that will improve South Carolina's competitiveness as a tourism destination.

URBAN ECOLOGY AND RESTORATION*

Award Date: 2005

State Award Amount: \$2 million

University: Clemson

Endowed Chair(s):

Dr. Robert F. Baldwin
Margaret H. Lloyd SmartState Endowed Chair in Urban Ecology

External Funding Above Match:

\$8.7 million

Research Focus: Generating scholarship by building collaborations in applied ecology and environmental science, habitat ecology and restoration, wetland and watershed management; conservation biology; private-public networks for conservation; payments for ecosystem services; urban ecology; environmental education; and by developing careers of young scientists and educators.


CANCER DRUG DISCOVERY*
Award Date: 2004

State Award Amount: \$5 million

Universities: MUSC, USC

Endowed Chair(s):

Dr. John LeMasters, MUSC

GlaxoSmithKline Distinguished Endowed Chair

Dr. Patrick Woster, MUSC

Chemical Biology/Medicinal Chemistry Endowed Chair

Dr. Mark Hamann, MUSC

Charles & Carol Cooper Chair in Pharmacy

Dr. Mitzi Nagarkatti, USC

Structural Biology Endowed Chair
Corporate Partner(s):

GlaxoSmithKline

External Funding Above Match:

\$24.1 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 candidates, and advanced biomedical screening technologies.

CANCER STEM CELL BIOLOGY AND THERAPY*
Award Date: 2008

State Award Amount: \$5 million

University: MUSC, USC

Endowed Chair(s):

Dr. Sophie Paczesny, MUSC

Abney Endowed Chair Remembering Sally Abney Rose

MUSC is recruiting for the Robert K. Stuart, MD Distinguished Chair in Hematology and Oncology

External Funding Above Match:

\$35.9 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 stem cells from bone marrow or organs to treat cancer.

GASTROINTESTINAL CANCER DIAGNOSTICS
Award Date: 2005

State Award Amount: \$5 million

Universities: MUSC

Endowed Chair(s):

Dr. Raymond Dubois, MUSC

Westerfield Coker Distinguished Chair in Gastrointestinal Malignancy

Dr. Albert Lockhart, MUSC

Grace E. DeWolff Endowed Chair in Medical Oncology
Corporate Partner(s):

Roche Carolina, Bank of America

External Funding Above Match:

\$22.9 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 overall impact of cancer mortality and morbidity and closing disparity gaps throughout the state.

LIPIDOMICS, PATHOBIOLOGY AND THERAPY*
Award Date: 2009

State Award Amount: \$5 million

University: MUSC

Endowed Chair(s):

MUSC is recruiting for the chair in Lipidomics & Pathobiology

Dr. Besim Ogretmen

Lipidomics Drug and Discovery
Corporate Partner(s):

Duke Energy

External Funding Above Match:

\$41.8 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(s):

USC is recruiting for the Frank P. and Josie M. Fletcher Professor of Pharmacy

External Funding Above Match:

\$6.7 million

Research Focus: Increasing drug safety and effectiveness, as well as decreasing medication errors by identifying the incidence and significance of adverse drug events.

TRANSLATIONAL CANCER THERAPEUTICS*
Award Date: 2004

State Award Amount: \$5 million

Universities: MUSC, USC

Endowed Chair(s):

Dr. Kenneth Tew, MUSC

John C. West Endowed Chair in Cancer Research

Dr. Igor Roninson, USC

Endowed Chair in Drug Efficacy
External Funding Above Match:

\$42.8 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.

*Graduated Center

SMARTSTATE PROGRAM®

Endowed Chairs

The role of SmartState Program® Endowed Chairs is to serve as catalyst for the state's knowledge economy. Seventy-six chairs of 86 approved chairs have been filled at Clemson University, the Medical University of South Carolina, and the University of South Carolina across 51 SmartState Centers.

The SmartState Program® welcomed three new endowed chairs this year: Ashish Deshmukh, Mark Stacey, Kuang-Ching "KC" Wang.



ROBERT ADAMS
Stroke
MUSC



ALEXANDER ALEKSEYENKO
BEACH
MUSC



ROBERT F. BALDWIN
Urban Ecology and
Restoration
Clemson



JOHN BALLATO
Optical Materials/
Photonics
Clemson



THEODORE BESMANN
General Atomics
USC



LEONARDO BONILHA
Gastrointestinal
Cancer Diagnostics
MUSC



AMY BRADSHAW
Molecular Proteomics
MUSC



JOHN BROOKS
Effectiveness Research
in Orthopedics
USC



DAN GABRIEL CACUCI
Nuclear Science and
Energy
USC



LAURA B. CARDINAL
Innovation and
Commercialization
USC



KENNETH CATCHPOLE
Health Facilities Design
and Testing
MUSC



MARK CHIMOWITZ
Stroke
MUSC



CYNTHIA CORBETT
CEPS
USC



CHRISTOPHER COWAN
Brain Imaging
MUSC



NANCY DEMORE
Tobacco-related
Malignancies
MUSC



ASHISH A. DESHMUKH
*Prostate Cancer
Disparities*
MUSC



THOMAS DISALVO
*Molecular Proteomics in
Cardiovascular Disease
and Prevention*
MUSC



RICHARD DRAKE
Proteomics
MUSC



RAYMOND DUBOIS
*Gastrointestinal Cancer
Diagnostics*
MUSC



STEPHEN A. DUNCAN
Regenerative Medicine
MUSC



JOHAN ENSLIN
Smart Grid Technology
Clemson



**CAROL FEGHALI-
BOSTWICK**
*Inflammation & Fibrosis
Research*
MUSC



ZORAN FILIPI
*Automotive Design
and Development*
Clemson



MARVELLA FORD
*Prostate Cancer
Disparities*
MUSC/SCSU



JULIUS FRIDRIKSSON
SeniorSMART®
USC



BRUCE GAO
*Advanced Tissue
Biofabrication*
Clemson



JEREMY GILBERT
Regenerative Medicine
Clemson



LORI-PENNINGTON GRAY
*Tourism and Economic
Development*
USC



MARK HAMANN
Cancer Drug Discovery
MUSC



VANESSA HINSON
Neurosciences
MUSC



KEVIN HUANG
Solid Oxide Fuel Cells
USC



MICHAEL JANECH
Marine Genomics
MUSC



RONGYING JIN
*Experimental Nanoscale
Physics*
USC



ERIC JOHNSON
Optoelectronics
Clemson



MARK JOHNSON
Sustainable
Development
Clemson



ANJALI JOSEPH
Health Facilities Design
and Testing
Clemson



YIANNIS KOUTALOS
Vision Science
MUSC



VENKAT KROVI
Vehicle Electronic
Systems
Integration
Clemson



JOCHEN LAUTERBACH
Strategic Approaches to
the Generation of
Electricity (SAGE)
USC



JAMIE LEAD
Environmental
Nanoscience and Risk
USC



JOHN LEMASTERS
Cancer Drug Discovery
MUSC



LES LENERT
Healthcare Quality
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SUE LEVKOFF
SeniorSMART®
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MITZI NAGARKATTI
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JIHAD OBEID
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BESIM OGRETMEN
Lipidomics Pathobiology
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SOPHIE PACZESNY
Cancer Stem Cell
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OLEG PALYGIN
Renal Disease Biomarkers
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CHRIS PAREDIS
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JOHN REGALBUTO
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BAERBEL ROHRER
Vision Science
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GONZO REVUELTA
Neurosciences
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IGOR RONINSON
Translational Cancer
Therapeutics
USC



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Brain Imaging
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KENNETH RUGGIERO
Technology Center to
Enhance Healthful
Lifestyles
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SOUVIK SEN
Stroke
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KENNETH TEW
Translational Cancer
Therapeutics
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BOBBY THOMAS
Child Neurotherapeutics
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Patient Simulation
and Research
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BETTY TSAO
Inflammation and
Fibrosis Research
MUSC



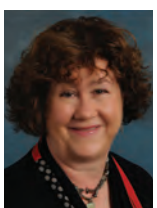
JEFFERY TWISS
Childhood
Neurotherapeutics
USC



MAREK URBAN
Advanced Fiber-based
Materials
Clemson



KUANG-CHING "KC" WANG
Cyber Institute
Clemson



DELIA WEST
Technology Center
to Promote Healthful
Lifestyles
USC



PATRICK WOSTER
Cancer Drug Discovery
MUSC



JOHN WRANGLE
Tobacco-Related
Malignancy
MUSC

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