



STATE  
UNIVERSITY  
SYSTEM  
*of* FLORIDA  
Board of Governors

**21<sup>st</sup> Century**

**Technology, Research, and Scholarship Act Programs**

A Report Compiled From the 2009-2010 State University System of Florida  
Annual Reporting Process

January 2011

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## **Introduction**

This report captures material from the 2009-2010 State University System Annual Report relative to those programs associated with the Florida Legislature's 21<sup>st</sup> Century Technology, Research, and Scholarship Act, created in 2006, preceded by similar legislation, and subsequently amended. The three programs associated with the Act and reported here include the Centers of Excellence program, the World Class Scholars program, and the State University Research Commercialization Assistance Grant program.

## **Centers of Excellence**



### **Centers of Excellence Authorization**

In 2001, the Florida Legislature established the Florida Emerging Technologies Commission and began to focus its attention on the value of the State University System to the state's economy and the critical role of the state universities in research discovery, business innovation, and job development. The 2002 Legislature appropriated \$30 million to establish Centers of Excellence, and in 2003 the Emerging Technology Commission recommended funding three Centers at \$10 million each:

- Center of Excellence in Biomedical and Marine Biotechnology - Florida Atlantic University
- Florida Photonics Center of Excellence - University of Central Florida
- Center of Excellence in Regenerative Health Biotechnology - University of Florida

The 2006 Florida Legislature passed House Bill 1237 which created the 21<sup>st</sup> Century Technology, Research, and Scholarship Enhancement Act. This legislation built upon the 2001 legislation by discontinuing the Emerging Technology Commission in favor of

a Florida Technology, Research, and Scholarship Board (FTRSB) to assist the Board of Governors in implementing the legislation, and by appropriating \$30 million for new Centers of Excellence. Ultimately, the Board of Governors authorized six Centers of Excellence and distribution of the appropriation as follows:

- Florida Center for Excellence in Biomolecular Identification and Targeted Therapeutics – University of South Florida - \$8,000,000
- Center of Excellence in Ocean Energy Technology – Florida Atlantic University - \$ 5,000,000
- Florida Institute for Sustainable Energy, Energy Technology Incubator – University of Florida - \$ 4,500,000
- Florida Photonics Center of Excellence, Laser Technology Initiative – University of Central Florida - \$ 4,500,000
- Center for Nano-Bio Sensors - University of Florida - \$ 4,000,000
- Center of Excellence in Advanced Materials – Florida State University – \$4,000,000

This brought the number of Centers of Excellence to nine.

The 2007 Legislature appropriated \$100 million to establish additional Centers of Excellence. As part of reductions to the state budget, the Legislature, in special session, reduced that appropriation to \$92.5 million. Meanwhile, the Board of Governors and the FTRSB made numerous revisions to their processes, the most meaningful (and time-intensive) of which was to utilize an external review of proposals by nationally recognized consultants. Concurrent with the FTRSB's recommendation for seven proposals, the amended appropriation was redirected in its entirety by the Legislature. Two of the FTRSB's original recommendations were then funded by the Legislature:

- Center of Excellence for Advanced Aero-Propulsion – Florida State University - \$14,570,225
- Center of Excellence for Hurricane Damage Mitigation and Product Development – Florida International University - \$10,006,955

Both of these endeavors were officially authorized as State University System Centers of Excellence by the Board of Governors in 2008. This brought the total number of Centers of Excellence to eleven, where it stands as of the writing of this report.

**State University System Centers of Excellence**

<u>Centers of Excellence</u>	<u>Funding Awarded</u>
<b>2002-03 Centers of Excellence Awards</b>	
FAU COE in Biomedical and Marine Biotechnology	\$10,000,000
UCF Florida Photonics COE	\$10,000,000
UF COE in Regenerative Health Biotechnology	\$10,000,000
	<b>\$30,000,000</b>
<b>2006-07 Centers of Excellence Awards</b>	
USF COE in Biomolecular Identification & Targeted Therapeutics	\$8,000,000
FAU COE in Ocean Energy Technology	\$5,000,000
UCF Florida Photonics COE Laser Technology Initiative	\$4,500,000
UF Institute for Sustainable Energy/ Energy Technology Incubator	\$4,500,000
UF COE for Nano-Bio Sensors	\$4,000,000
FSU COE in Advanced Materials	\$4,000,000
	<b>\$30,000,000</b>
<b>2007-08 Centers of Excellence Awards</b>	
FSU COE for Advanced Aero-Propulsion	\$14,570,225
FIU COE for Hurricane Damage Mitigation and Product Development	\$10,006,955
	<b>\$24,577,180</b>
<b>Total State Centers of Excellence Investment</b>	<b>\$84,577,180</b>

**Centers of Excellence Accountability Measures**

Legislation requires the Board of Governors to issue an annual report of Center of Excellence activities conducted, including the accomplishments and overall economic benefits to the state; the number of Centers of Excellence created or expanded; the success of collaborations with related industries; and other indicators. During 2006, the Board of Governors requested and received an update of progress in the establishment

of the three 2002-03 Centers. In Spring 2007, the State University System Vice Presidents for Research participated in revising the set of accountability measures. These measures are reflected in the following table.

<b>CENTERS OF EXCELLENCE Accountability Measures</b>	
<b><u>Research Effectiveness</u></b>	
1.	Competitive Grants Applied For and Received
2.	Total Research Expenditures
3.	Publications in Refereed Journals From Center Research
4.	Professional Presentations Made on Center Research
5.	Invention Disclosures Filed and Issued
6.	Technologies Licensed and Revenues Received
<b><u>Collaboration Effectiveness</u></b>	
7.	Collaborations with Other Postsecondary Institutions
8.	Collaborations with K-12 Education Systems/Schools
9.	Collaborations with Private Industry
10.	Students Supported with Center Funds
11.	Students Graduated
12.	Job Placements of Graduates Upon Leaving the Center
<b><u>Economic Development Effectiveness</u></b>	
13.	Business Start-Ups in Florida
14.	Jobs Created and Jobs Saved in Florida
15.	Specialized Industry Training and Education
16.	Dollars Acquired from Venture Capitalists and Other Investments

**Centers of Excellence Return on Investment**

Since their inception, the 11 State University System Centers of Excellence, with an initial State investment of \$84.5 million, have returned \$251 million in competitive grants and another \$24 million in private sector support. These Centers collectively have made 223 invention disclosures, executed 43 licenses/options, received nearly a

half million dollars in license revenues, initiated 30 companies, created 745 jobs, and provided more than 100 specialized industry training sessions. In addition, the Centers have supported 1,110 undergraduate and graduate students, and created collaborations with 508 private industry entities. Below, a summary table of Centers of Excellence accountability performance is provided, and performance tables on individual Centers of Excellence may be found in Appendix A.

<b>SUS Summary for Centers of Excellence</b>	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Research Effectiveness</b>		
<i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>		
Number of Competitive Grants Applied For	1,238	502
Value of Competitive Grants Applied For (\$)	\$1,028,432,370	\$351,251,883
Number of Competitive Grants Received	693	322
Value of Competitive Grants Received (\$)	\$251,071,991	\$51,160,949
Total Research Expenditures (\$)	\$183,592,883	\$45,180,383
Number of Publications in Refereed Journals From Center Research	1,240	486
Number of Invention Disclosures	223	75
Number of Licenses/Options Executed	42	8
Licensing Income Received (\$)	\$462,321	\$3,000
<b>Collaboration Effectiveness</b>		
<i>Only reports on relationships that include financial or in-kind support.</i>		
Collaborations with Other Postsecondary Institutions	295	140
Collaborations with Private Industry	508	178
Collaborations with K-12 Education Systems/Schools	194	69
Undergraduate and Graduate Students Supported with Center Funds	1110	445
<b>Economic Development Effectiveness</b>		
Number of Start-Up companies <i>with a physical presence, or employees, in Florida</i>	30	1
Jobs Created By Start-Up Companies Associated with the Center	745	118
Specialized Industry Training and Education	110	60
Private-sector Resources Used to Support the Center's Operations	\$24,390,046	\$12,300,019

### Centers of Excellence Operating Status

Ten of the eleven designated Centers are active and highly productive in research, workforce training, economic development activities, and platforms for interaction with both undergraduate and graduate students. One Center is currently inactive.

#### Florida Atlantic University Center of Excellence in Biomedical and Marine Biotechnology

Due to restructuring, key faculty turnover, and new institutional leadership, the Florida Atlantic University Center of Excellence in Biomedical and Marine Biotechnology has been placed in an inactive status. When it is restructured, the Center will have more focused concentration on emerging relationships with Scripps, Torrey Pines, and the Max Planck Institute. Nevertheless, this Center, created in 2002-03 with \$10 million, has received \$26.3 million in competitive grants.

#### Florida Atlantic University Center of Excellence for Ocean Engineering Technology

This Center of Excellence, renamed as the Southeast National Marine Renewable Energy Center, continues to focus on the ocean energy industry in Florida in order to provide solutions to the state's energy challenges. This Center focuses on determining the potential of harnessing the ocean current and ocean thermal energy conversion as energy resources. The Center's mission is to bridge the gap between concept and commercial deployment of ocean energy technologies by providing at-sea testing facilities for both ocean current and thermal energy research for technology development. Notable accomplishments during the past year include completed milestones in resource assessment, research, and regulatory process activity. Since its creation in 2006-07 with \$5 million, this Center has received \$3.9 million in competitive grants.



### Florida International University Center of Excellence for Hurricane Damage Mitigation and Product Development

Established in 2007-08, this Center experienced a delay of its Wall of Wind testing facility due to noise issues at the selected location, resulting in limiting research in the areas of hurricane damage mitigation and development of partnerships with industry. The facility is planned for completion in the summer of 2011. Nevertheless, since its creation with \$10 million, the Center has already received 22 grants worth \$6.4 million despite startup delays.

### Florida State University Center of Excellence for Advanced Aero-Propulsion

This Center was performing cutting-edge research and development years before its formal designation as a Center of Excellence. Since its inception, it has received more than \$16 million in competitive grants, filed 15 invention disclosures, and been awarded 8 licenses/options. The Center's mission is to assist the space industry to remain competitive as it contends with an aging workforce and the need for innovative technologies. The Center is a collaborative effort among Florida State University, Embry-Riddle Aeronautical University, the University of Central Florida, and the University of Florida, and works to bridge the gap between academia and industry and give university-produced innovations a push toward commercial viability, seeking to conduct research and development for next-generation aircraft and spacecraft, as well as to conduct workforce training. Since its creation in 2007-08 with \$14.5 million, this Center has received \$16.4 million in competitive grants.

### Florida State University Center of Excellence in Advanced Materials

This Center has moved into a new, \$21 million dedicated facility. Noted for its "Bucky Paper," the Center's chief focus is the development and production of new composite materials lighter and stronger than currently utilized materials such as aircraft aluminum. The Center's work continues to explore applications in production areas such as aircraft, boats, security personnel equipment, and others. In 2010, the Center, in

conjunction with the University of North Florida, was awarded a 2010 New Florida Initiative Clustering award to explore the use of composite materials in prosthetics. Since its designation as a Center of Excellence in 2006-07, the Center has received more than \$10 million in competitive grants.

University of Central Florida Photonics Center of Excellence-Laser Technology Initiative

The University of Central Florida is world-renowned for its work in photonics and lasers. This Center seeks to explore new applications for lasers in research, healthcare, and business and industry. Since its inception in 2006-07 with \$4.5 million, this extremely active Center has received \$10.8 million in competitive grants.

University of Central Florida Photonics Center of Excellence

The Center enjoys a new 21,000 square foot facility. The Center has supported many industry partnerships, resulting in more than 60 patent disclosures, some of which have led to spinoff companies. Since its creation in 2002-03 with \$10 million, this Center has received \$50.3 million in competitive grants.

University of Florida Center of Excellence for Nano-Bio Sensors

The Center's focus is to invest in the development and commercialization of promising nano-bio technologies focusing on applications in medical diagnostics and homeland security. Since its creation in 2006-07 with \$4 million, this Center has received \$21 million in competitive grants.

University of Florida Center of Excellence for Regenerative Health Biotechnology

This Center's mission is to stimulate promising research and facilitate first-in-man studies leading to commercialization of technologies that will provide treatments for human diseases while creating new companies and high-wage jobs. A new manufacturing facility was designed, built-out, outfitted, commissioned, and validated

using state and federal funding. The Center has established an extensive support and participation network of 85 partners, including companies, research institutes, professional societies, industry organizations, Chambers of Commerce, community colleges, and others. In 2009-10, the Center expanded its marketing efforts for drug development services. Since its creation in 2002-03 with \$10 million, the Center has received \$14.6 million in competitive grants.

University of Florida FISE Energy Technology Incubator

Since its creation in 2006-07 with \$4.5 million, this Center has received \$80.5 million in competitive grants. The Center's two main areas of focus include the Prototype Development and Demonstration Laboratory, and the Florida Center for Renewable Chemicals and Fuels led by Dr. Lonnie Ingram, who is considered a world leader in alternate fuels.

University of South Florida Center of Excellence for Biomolecular Identification and Targeted Therapeutics

Established in 2006-07 with \$8 million, this Center has received \$10.5 million in competitive grants. In 2010, the Center partnered with the University of Florida and Hillsborough Community College to provide an industrial biotechnology workshop as well as a High-Impact Technology and Exchange Conference on workforce education. The Center recently completed a study titled, "Inventory for the Greater Tampa Bay Region's Biotechnology Industry." This study, and others to follow, will be used to tailor course content or direct training at USF and local community colleges.

A comparative table of Centers of Excellence performance is provided, and performance tables and narrative on individual Centers of Excellence may be found in Appendix A.

## 2010 Table of Centers of Excellence Cumulative Performance Since Creation

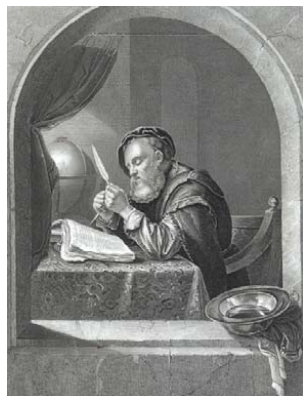
Name of University:	SUS	FAU	FAU	FIU	FSU	FSU	UCF	UCF	UF	UF	UF	USF
Name of Center:	System Summary	Center for Biomedical and Marine Bio-technology  <i>See footnote</i>	Center for Ocean Energy Technology	Center of Excellence for Hurricane Damage Mitigation and Product Development	Center of Excellence in Advanced Materials	Florida Center for Advanced Aero-Propulsion	UCF Florida Photonics Center of Excellence	UCF Florida Photonics Center of Excellence - Laser Technology Initiative	Re-generative Health Bio-technology	FISE Energy Technology Incubator	Center for Nano-Bio Sensors (CNBS)	Florida Center of Excellence for Bio-molecular Identification and Targeted Therapeutics
Year Created:		2002-03	2006-07	2007-08	2006-07	2007-08	2002-03	2006-07	2002-03	2006-07	2006-07	2006-07
<b>Research Effectiveness</b>												
<i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>												
Number of Competitive Grants Applied For	1,238	42	9	29	122	191	383	122	86	75	89	90
Value of Competitive Grants Applied For (\$Millions)	\$1,028.4	\$125.9	\$11.4	\$10.8	\$108.2	\$82.8	\$148.9	\$68.3	\$25.1	\$290.0	\$101.8	\$55.1
Number of Competitive Grants Received	693	7	5	22	45	93	197	72	65	112	43	32
Value of Competitive Grants Received (\$Millions)	\$251.1	\$26.3	\$3.9	\$6.4	\$10.4	\$16.4	\$50.3	\$10.8	\$14.6	\$80.5	\$21.0	\$10.5
Total Research Expenditures (\$Millions)	\$183.6	\$36.3	\$12.3	\$5.7	\$11.2	\$7.1	\$46.6	\$5.1	\$17.1	\$29.3	\$3.4	\$9.5
Number of Publications in Refereed Journals From Center Research	1,240	66	20	5	61	104	163	79	122	396	134	90
Number of Invention Disclosures	223	7	0	0	15	15	67	22		36	48	13
Number of Licenses/Options Executed	42	20	0	0	0	8	4	0	2	3	3	2
Licensing Income Received (\$)	\$462,321	\$55,000	\$0	\$0	\$0	\$0	\$181,250	\$0	\$3,000	\$60,000	\$0	\$163,071

Note: Due to a restructuring at FAU, this Center has been placed on an inactive status. When the Center is restructured it will have a more focused concentration on the emerging relationships with Scripps, Max Planck and Torrey Pines.

**2010 Table of Centers of Excellence Cumulative Performance Since Creation (continued)**

Name of University:	SUS	FAU	FAU	FIU	FSU	FSU	UCF	UCF	UF	UF	UF	USF
Name of Center:	System Summary	Center for Biomedical and Marine Biotechnology <i>See footnote</i>	Center for Ocean Energy Technology	Center of Excellence for Hurricane Damage Mitigation and Product Development	Center of Excellence in Advanced Materials	Florida Center for Advanced Aero-Propulsion	UCF Florida Photonics Center of Excellence	UCF Florida Photonics Center of Excellence - Laser Technology Initiative	Re-generative Health Biotechnology	FISE Energy Technology Incubator	Center for Nano-Bio Sensors (CNBS)	Florida Center of Excellence for Bio-molecular Identification and Targeted Therapeutics
Year Created:		2002-03	2006-07	2007-08	2006-07	2007-08	2002-03	2006-07	2002-03	2006-07	2006-07	2006-07
<b>Collaboration Effectiveness</b>												
<i>Only reports on relationships that include financial or in-kind support.</i>												
Collaborations with Other Postsecondary Institutions	295	17	21	6	11	27	29	9	88	58	10	19
Collaborations with Private Industry	508	10	22	28	36	45	45	8	206	81	6	21
Collaborations with K-12 Education Systems/Schools	194		25	0	18	19	14	0	109		5	4
Undergraduate and Graduate Students Supported with Center Funds	1,110	13	57	21	178	249	0	5	264	261	35	27
<b>Economic Development Effectiveness</b>												
Start-Up companies with a physical presence, or employees, in Florida	30	4	0	0	1	4	5	2	2	9	3	0
Jobs Created By Start-Up Companies Associated with the Center	745	2	0	5	0	281	60	10	227	107	53	0
Specialized Industry Training and Education	110	1	30	0	2	1	2	2	40	20	5	7
Private-sector Resources Used to Support the Center's Operations (\$1000s)	\$24,390	\$0	\$0	\$0	\$0	\$0	\$0	\$500	\$46	\$890	\$23,000	\$0

## 21<sup>st</sup> Century World Class Scholars



Fifteen of the sixteen World Class Scholar positions were immediately filled, and those faculty continue to work in the State University System, performing extraordinary levels of teaching, research, and service. Cumulatively, these scholars have received nearly \$46 million in external competitive grants and have filed and had 16 patents issued. The single World Class Scholar position currently unfilled, at UCF, was the result of protracted contract negotiations and obligations that ultimately led to the primary candidate not being hired. The University is actively working to fill this position as soon as possible. A summary table of World Class Scholars performance is provided below. Please refer to Appendix B for performance tables on individual World Class Scholars.

**2010 Summary Table of World Class Scholars**

UNIV	World Class Scholar(s) and Field	Grant Dollars		Report the cumulative activity since each scholar's award.		
		Amount Awarded (Thousand \$)	Cumulative Amount Expended (Thousand \$)	External Research Awards (Thousand \$)	Patents Filed / Issued	Licensing Revenues (\$)
FIU	<b>Joe Leigh Simpson M.D</b>	\$1,000	\$376	\$1,637	0	\$0
FSU	<b>Dr. David Larbalestier</b> , <i>Mechanical Engineering/Applied Superconductivity</i>	\$3,000	\$3,000	\$10,891	0	\$0
FSU	<b>Dr. Eric Hellstrom</b> , <i>Mechanical Engineering/Applied Superconductivity</i>	\$1,000	\$1,000	\$2,586	0	\$0
FSU	<b>Dr. David Gilbert</b> , <i>Biological Sciences/Molecular Biology</i>	\$1,000	\$1,000	\$2,677	1	\$0
UCF	<b>Marwan Simaan</b>	\$1,000	\$259	\$451	0	\$0
UCF	<b>Dr. D.W. van der Weide replacement</b>	\$1,000	\$0	\$0	0	\$0
UF	<b>Linda Bartoshuk</b> , <i>Behavioral Neuroscience</i>	\$1,000	\$1,000	\$3,130	0	\$0
UF	<b>Kirk Conrad</b> , <i>Functional Genomics</i>	\$1,000	\$1,000	\$1,764	6	\$0
UF	<b>Martin Glicksman</b> , <i>Materials Science and Engineering</i>	\$1,000	\$1,000	\$200	0	\$0
UF	<b>Grant McFadden</b> , <i>Molecular Genetics/Microbiology</i>	\$1,000	\$1,000	\$3,394	1	\$0
UF	<b>Scott Perry</b> , <i>Materials Science and Engineering</i>	\$1,000	\$1,000	\$1,521	0	\$0
UF	<b>Johannes Vieweg</b> , <i>Genetic and Cellular Immunology</i>	\$1,000	\$1,000	\$7,304	8	\$0
USF	<b>John Adams</b>	\$1,000	\$1,000	\$4,739	0	\$0
USF	<b>Richard Gitlin</b>	\$1,000	\$1,000	\$0	2 filed	\$0
USF	<b>James Mihelcic</b>	\$1,000	\$1,000	\$642	0	\$0
USF	<b>Thomas Unnasch</b>	\$1,000	\$1,000	\$4,933	1 filed	\$0
<b>TOTAL for all Scholars</b>		<b>\$18,000</b>	<b>\$15,635</b>	<b>\$45,869</b>	<b>16</b>	<b>\$0</b>



## **State University Research Commercialization Assistance Grants**

SURCAG grants were awarded according to three phases of activity: Phase I grants were awarded to develop technology transfer processes for recruiting entrepreneurs and developing better business plan acumen. Phase II grants were awarded for developing business plans and testing market interest and need. Phase III grants were awarded for moving business plans forward to commercialization.

For the most part, SURCAG grants have been instrumental in moving university-based ideas toward commercialization. For example, UF's Sharklet technology raised \$1.5 million in private investments, its Audigence technology is ready for a limited national launch in January 2011, and its Curfacto technology has seen company formation with \$1 million investment capital. At USF, a Phase II grant for Platinum Compounds resulted in the creation of a business plan for the commercialization of anti-cancer drug compounds.

As in any realistic research environment, however, these grants also demonstrate that not all initial concepts are commercially viable and that, while company and job creation are very real, university commercialization (as well as private) faces the challenges associated with gaining traction in a difficult fiscal climate. As is to be expected, certain technologies were determined not to be commercially viable. Such was the case with UF's Phase I Kairos project. UF's Phase I ASEDRA technology was determined technologically sound, but there is still a substantial road ahead to marketability, also typical in the world of commercialization. Elsewhere, FSU's efforts to form a start-up company for one of its most promising technologies in advanced composite materials is working to solve the challenges of manufacturing large enough quantities to demonstrate production viability. The SURCAG grant associated with this

project has been re-purposed to create a machine to fabricate larger pieces of Buckypaper for evaluation by potential commercial users. It is further noted that not all state appropriations of SURCAG dollars have been expended. One reason for this is that Phase II and Phase III awards require a dollar-for-dollar private match. Therefore, the universities with these awards have two accounts from which they are drawing down funds simultaneously. A summary table of SURCAG grant performance is provided below. Performance tables on individual SURCAG grants may be found in Appendix C.

**2010 Summary Table  
for State University Research Commercialization Assistance Grants (SURCAG)**

<b>Phase I Grants</b>	<b>Cumulative</b>	
	<b>Awards</b>	<b>Expenditures</b>
FAMU - Commercialization Infrastructure	\$41,000	\$40,885
FIU - "Tech Transfer" Enhancing Biomedical Technology Transfer at Florida International University	\$50,000	\$50,000
FSU - Tech Transfer	\$50,000	\$50,000
UCF - Industrial Scale Production of Low Cost Enzymes for Cellulosic Ethanol	\$40,500	\$39,026
UCF - MyCaseSpace	\$25,000	\$25,000
UCF - Microfluidic Chips	\$30,000	\$14,141
UF - Kairos	\$34,900	\$34,900
UF - Oceanus	\$25,000	\$25,000
UF - WiOptix Cancer Detection	\$38,000	\$38,000
UF - ASEDRA	\$27,000	\$27,000
UF - Neuromagnetix	\$40,000	\$40,000
UF - Self Sterilization	\$15,000	\$15,000
UNF - Tech Transfer	\$26,755	\$26,755
USF - Early Stage RAID	\$50,000	\$19,000
UWF - FTRSB SURCAG UWF Phase I	\$50,000	\$50,000
<b>Phase I Subtotal:</b>	<b>\$543,155</b>	<b>\$494,707</b>
<b>Phase II Grants</b>		
FSU - Develop Business Plans for Multiple Projects	\$100,000	\$81,189
UCF - SimVroom	\$25,000	\$24,413
UF - Curfactor	\$75,000	\$75,000
USF - Platinum Compounds	\$50,000	\$0
<b>Phase II Subtotal:</b>	<b>\$250,000</b>	<b>\$180,602</b>
<b>Phase III Grants</b>		
FAU - CHS Resources	\$184,294	\$184,294
FSU - BuckyPaper, Inc	\$250,000	\$0
UCF - LP Photonics	\$184,294	\$160,742
UF - Sharklet	\$250,000	\$250,000
UF - Audigence	\$184,293	\$184,293
<b>Phase III Subtotal:</b>	<b>\$1,052,881</b>	<b>\$779,329</b>
<b>Total for all SURCAG Grants</b>	<b>\$1,846,036</b>	<b>\$1,454,637</b>



## **Conclusion**

The programs gathered under the auspice of the 21<sup>st</sup> Century Technology, Research, and Scholarship Enhancement Act are representative of but a small portion of the total research and development associated with the eleven institutions of the State University System. In 2008-09, State University System faculty brought \$1.3 billion in federal, private, and other contracts and grant awards to Florida, equaling half of the General Revenue and Lottery funds used to support the System during that year.

Nevertheless, taken together these 21<sup>st</sup> Century Act programs represent a significant, focused response to the System's goal of transforming Florida's economy to one that relies less on growth, tourism, and agriculture and, instead, aspires to be a national leader in high-wage, high-skill, cutting-edge technology. A further testament to the relevance of these programs is that several of Florida's most critical issues are addressed across their spectrum.

In each of the competitive processes that created the Centers of Excellence, the World Class Scholars, and the State University Research Commercialization Assistance Grants, it has been the case that there were far more qualified submissions than dollars available for creating awards. An infusion of resources into these demonstrably successful programs will see an even greater return on Florida's initial investment.

**Appendix A  
Individual Tables Regarding Centers of Excellence**

Florida Atlantic University Centers of Excellence			
Name of Center:	Southeast National Marine Renewable Energy Center (formerly known as the Center for Ocean Energy Technology)	Cumulative (since inception to June 2010)	Fiscal Year 2009-10
Year Created:	2006-07		
<b>Research Effectiveness</b> <i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	9		2
Value of Competitive Grants Applied For (\$)	\$11,382,447		\$9,124,874
Number of Competitive Grants Received	5		2
Value of Competitive Grants Received (\$)	\$3,906,059		\$2,250,000
Total Research Expenditures (\$)	12,286,471		0
Number of Publications in Refereed Journals From Center Research	20		15
Number of Invention Disclosures	0		0
Number of Licenses/Options Executed	0		0
Licensing Income Received (\$)	\$0		\$0
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	21		10
Collaborations with Private Industry	22		11
Collaborations with K-12 Education Systems/Schools	25		11
Undergraduate and Graduate Students Supported with Center Funds	57		37
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida	0		0
Jobs Created By Start-Up Companies Associated with the Center	0		0
Specialized Industry Training and Education	30		29
Private-sector Resources Used to Support the Center's Operations	\$0		\$0
<b>Narrative Comments [Most Recent Year]:</b>			

Florida Atlantic University Centers of Excellence	
Name of Center:	Southeast National Marine Renewable Energy Center (formerly known as the Center for Ocean Energy Technology)
Narrative Comments [Most Recent Year]:	
<p>The Southeast National Marine Renewable Energy Center's (formerly known as the Center for Ocean Energy Technology) program is structured to be the catalyst that will enable the ocean energy industry in Florida in providing solutions to the state's energy challenge. This project focuses on determining the potential of harnessing specifically the ocean current resource and ocean thermal energy conversion. The regulatory process at State and Federal levels for ocean energy infrastructure and operation in the offshore continental shelf is not clearly defined nor the roles and interdependencies of the individual agencies clearly articulated. In addition, knowledge to make these decisions is more on a macro rather than micro level necessary to assess individual devices. SNMREC's mission is to bridge the gap between concept and commercial deployment of ocean energy technologies by providing at-sea testing facilities for both ocean current and thermal energy research and for technology development. Research cuts across environmental, ecological, resource and technology areas. The Southeast National Marine Renewable Energy Center at Florida Atlantic University (FAU) was established by an award from the US Department of Energy in 2010 out of the FAU Center for Ocean Energy Technology, which was originally founded in 2007 as part of the 2006 Florida State University System Center of Excellence Program. Over the past several years, the regulatory environment associated with MRE development on the continental shelf has evolved considerably, and the Center's initial strategy has evolved as well. In particular, the Center has continued to move forward in strategic research, in pursuing key technology, and in defining standards criteria; it has also become more and more deeply engaged in regulatory process formation, which will influence the development of MRE in Florida, while continuing to educate and engage the public.</p> <p>Research and development for an ocean energy industry is being addressed with a system-level, phased approach. Joint research is ongoing at FAU, with FESC partners, and other industrial, government, and academic partners. Initial research in areas such as ocean resource analysis and modeling, prognostics and health monitoring systems, materials and anti-fouling, mooring and anchor systems, and environmental/benthic baseline assessment have been funded.</p> <p>SNMREC's technology and industry support efforts are underway in three distinct but inter-related tracks. First, the Center is actively engaged in sensor and instrument acquisition, deployment, and analysis to more fully characterize offshore energy resources, as well as the benthic and pelagic environment. Second, in support of ongoing research and to further an operational and technical understanding of offshore energy systems and challenges, the Center has designed, partially fabricated, and will begin testing a small-scale hydrokinetic turbine system. Testing will be completed for components, sub-systems, and major systems of the turbine, eventually evolving to full system testing in a phased, risk-reduction process. Finally, the Center is working to begin early development of system-level test operations and data collection infrastructure. This effort is intended to support and promote a phased approach for early-stage testing to minimize risk and further scaled development for the growing industry, as well as to help establish standards criteria and practice for the future sector.</p> <p>Notable accomplishments during the past year include completed milestones in resource assessment, research, regulatory process activity, partner relationships, infrastructure development, and outreach. Stand-alone instruments deployed offshore in 2009 were recovered, and the data obtained reveals new and important features of the Florida Current that will influence design of offshore MRE systems. An application to lease deployment sites has been submitted to and is being reviewed by the US Bureau of Ocean Energy Management, Regulation, and Enforcement. An onshore 20 kW dynamometer system, for testing MRE system components, is installed and is currently undergoing operational testing. In March, SNMREC hosted an industry / government / academe workshop on issues associated with MRE development that produced a clear consensus about the importance of negotiating the maze of regulatory issues if the endeavor is to succeed. And the Center developed a curriculum for upper-division high-school students to introduce the topic within secondary education..</p>	

**Appendix A**  
**Individual Tables Regarding Centers of Excellence**

<b>Florida Atlantic University Centers of Excellence</b>			
<b>Name of Center:</b>	Center for Biomedical and Marine Biotechnology	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2002-03		
<b>Research Effectiveness</b> <i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	42		0
Value of Competitive Grants Applied For (\$)	\$125,917,335		\$0
Number of Competitive Grants Received	7		0
Value of Competitive Grants Received (\$)	\$26,335,947		\$0
Total Research Expenditures (\$)	\$36,335,947		\$0
Number of Publications in Refereed Journals From Center Research	66		0
Number of Invention Disclosures	7		0
Number of Licenses/Options Executed	20		0
Licensing Income Received (\$)	\$55,000		\$0
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	17		0
Collaborations with Private Industry	10		0
Collaborations with K-12 Education Systems/Schools	2470 students		0
Undergraduate and Graduate Students Supported with Center Funds	13		0
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida	4		0
Jobs Created By Start-Up Companies Associated with the Center	2		0
Specialized Industry Training and Education	1		0
Private-sector Resources Used to Support the Center's Operations	\$0		\$0
<b>Narrative Comments [Most Recent Year]:</b>			
Due to a restructuring at FAU, this Center has been placed on an inactive status. The Center when it is restructured will have a more focused concentration on the emerging relationships with Scripps, Max Planck and Torrey Pines.			

<b>Florida International University Centers of Excellence</b>			
<b>Name of Center:</b>	Center of Excellence for Hurricane Damage Mitigation and Product Development	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2007-08		
<b>Research Effectiveness</b> <i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	29		13
Value of Competitive Grants Applied For (\$)	\$10,772,474		\$6,306,381
Number of Competitive Grants Received	22		14
Value of Competitive Grants Received (\$)	\$6,431,188		\$2,661,953
Total Research Expenditures (\$)	\$5,673,101		\$2,797,216
Number of Publications in Refereed Journals From Center Research	5		5
Number of Invention Disclosures	0		0
Number of Licenses/Options Executed	0		0
Licensing Income Received (\$)	\$0		\$0
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	6		3
Collaborations with Private Industry	28		20
Collaborations with K-12 Education Systems/Schools	0		0
Undergraduate and Graduate Students Supported with Center Funds	21		10
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida	0		0
Jobs Created By Start-Up Companies Associated with the Center	5		0
Specialized Industry Training and Education	0		0
<b>Narrative Comments [Most Recent Year]:</b>			
The construction of the Wall of Wind testing facility was delayed because of noise issues at the selected location. This delay continues to limit research in the areas of hurricane damage mitigation and development of partnerships with industry. The Facility is planned for completion in Summer 2011.			

**Appendix A  
Individual Tables Regarding Centers of Excellence**

Florida State University Centers of Excellence			
Name of Center:	Center of Excellence in Advanced Materials	Cumulative (since inception to June 2010)	Fiscal Year 2009-10
Year Created:	2006-07		
<b>Research Effectiveness</b>			
<i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For		122	50
Value of Competitive Grants Applied For (\$)		\$108,239,603	\$51,294,312
Number of Competitive Grants Received		45	10
Value of Competitive Grants Received (\$)		\$10,440,441	\$3,428,374
Total Research Expenditures (\$)		\$11,213,147	\$3,401,566
Number of Publications in Refereed Journals From Center Research		61	21
Number of Invention Disclosures		15	11
Number of Licenses/Options Executed		0	0
Licensing Income Received (\$)		\$0	\$0
<b>Collaboration Effectiveness</b>			
<i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions		11	10
Collaborations with Private Industry		36	33
Collaborations with K-12 Education Systems/Schools		18	12
Undergraduate and Graduate Students Supported with Center Funds		178	74
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida		1	0
Jobs Created By Start-Up Companies Associated with the Center		0	0
Specialized Industry Training and Education		2	2
Private-sector Resources Used to Support the Center's Operations		\$0	\$0

Florida State University Centers of Excellence	
Name of Center:	Center of Excellence in Advanced Materials
Narrative Comments:	
<p>The Florida Center of Excellence in Advanced Materials (CEAM) is continuing to grow and develop. In February 2009, CEAM personnel moved into FSU's new Materials Research Building, a 44, 000 sq. ft. \$21M facility.</p> <p>CEAM is continuing its partnership with Tallahassee Community College, Brevard Community College and Manatee Technical Institute. On August 10, Tallahassee Community College had its grand opening for the Advanced Manufacturing Training Center (AMTC). The AMTC is a 25,000 sq ft. facility that will house a 998 sq. ft. Composite Lab along with Classrooms, a large Manufacturing Lab area, a CNC Lab and incubator space.</p> <p>Outreach programs are continuing. For instance, in July CEAM personnel worked with TCC in sponsoring two 1-week Composite Materials Summer Camps for high school students in which students built skateboards.</p> <p>Since the last report, CEAM inventors were awarded two patents: "Method for Mechanically Chopping Carbon Nanotube and Nanoscale Fibrous Materials" (US Patent 7,459,121) and "Vacuum-Assisted Resin Transfer Molding Flow-Tracking Process and System" (US Patent #7,797,075)</p> <p>CEAM is working with six community colleges in Florida, Georgia and Alabama to secure funding to establish a NSF-sponsored Advanced Technological Education Center regional center to create a trained workforce and encourage manufacturing expansion in the region.</p> <p>CEAM will continue to work to seek opportunities and cultivate relationships to impact the economic development in Florida.</p>	

**Appendix A**  
**Individual Tables Regarding Centers of Excellence**

<b>Florida State University Centers of Excellence</b>			
<b>Name of Center:</b>	Florida Center for Advanced Aero-Propulsion	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2007-08		
<b>Research Effectiveness</b> <i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	191	138	
Value of Competitive Grants Applied For (\$)	\$82,809,617	\$65,374,065	
Number of Competitive Grants Received	93	53	
Value of Competitive Grants Received (\$)	\$16,370,962	\$7,917,135	
Total Research Expenditures (\$)	\$7,093,996	\$4,438,798	
Number of Publications in Refereed Journals From Center Research	104	67	
Number of Invention Disclosures	15	0	
Number of Licenses/Options Executed	8	1	
Licensing Income Received (\$)	\$N/A	\$0	
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	27	17	
Collaborations with Private Industry	45	20	
Collaborations with K-12 Education Systems/Schools	19	10	
Undergraduate and Graduate Students Supported with Center Funds	142G/107UG	63G/58UG	
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida	4	N/A	
Jobs Created By Start-Up Companies Associated with the Center	281	N/A	
Specialized Industry Training and Education	1	N/A	
Private-sector Resources Used to Support the Center's Operations	N/A	N/A	
<b>Narrative Comments:</b>			
The data in the table above represents activity of all team partners of FCAAP. The data in this section represents FSU ONLY: Research Highlights- Grants Applied for and Received: 22 Applied-\$31,899,701; 12 Received-\$2,486,391 Total Research Expenditures: \$800,291; Publications in Refereed Journals: 12; Professional Presentations on Center Research: 30; Invention Disclosures Filed and Patents Awarded: 5; Collaborations with Other Post-Secondary Institutions: 10; Collaborations with K-12 Education Systems/Schools: 7; Collaborations with Private Industry: 6; Students Supported with Center Funds: 25 Grad/8 UG; Students Graduated: 3			

<b>University of Central Florida Centers of Excellence</b>			
<b>Name of Center:</b>	UCF Florida Photonics Center of Excellence	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2002-03		
<b>Research Effectiveness</b> <i>Only includes data for activities directly associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	383	71	
Value of Competitive Grants Applied For (\$)	\$148,881,312	\$34,596,404	
Number of Competitive Grants Received	197	52	
Value of Competitive Grants Received (\$)	\$50,280,998	\$7,328,169	
Total Research Expenditures (\$)	\$46,570,686	\$6,275,031	
Number of Publications in Refereed Journals From Center Research	163	66	
Number of Invention Disclosures	67	24	
Number of Licenses/Options Executed	4	1	
Licensing Income Received (\$)	\$181,250	\$0	
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	29	0	
Collaborations with Private Industry	45	0	
Collaborations with K-12 Education Systems/Schools	14	0	
Undergraduate and Graduate Students Supported with Center Funds	0	0	
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies with a physical presence, or employees, in Florida	5	0	
Jobs Created By Start-Up Companies Associated with the Center	60	0	
Specialized Industry Training and Education	2	0	
Private-sector Resources Used to Support the Center's Operations	\$0	\$0	
<b>Narrative Comments:</b>			
The Florida Photonics Center of Excellence's (FPCE) \$10 million grant has been used for developing an infrastructure for research and graduate education in photonics. This included establishment of two endowed chairs, support for five outstanding FPCE faculty, construction of a new 21,000 sq ft building addition with incubation space, and addition of a unique multi-user nanophotonics fabrication facility (housing ~\$15 million of capital equipment serving faculty, industry, and external organizations). Since 2003, FPCE has invigorated photonics research, supported many partnership projects with Florida industry, resulted in more than 65 patent disclosures with some leading to spinoffs, and generated research grants totaling more than \$50 million. Efforts in building up the biophotonics program, which were seeded by the FPCE grant, are currently being vigorously pursued.			

**Appendix A**  
**Individual Tables Regarding Centers of Excellence**

<b>University of Central Florida Centers of Excellence</b>			
<b>Name of Center:</b>	UCF Florida Photonics Center of Excellence - Laser Technology Initiative	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2006-07		
<b>Research Effectiveness</b> <i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	122		88
Value of Competitive Grants Applied For (\$)	\$68,348,394		\$63,586,433
Number of Competitive Grants Received	72		45
Value of Competitive Grants Received (\$)	\$10,770,830		\$8,526,686
Total Research Expenditures (\$)	\$5,127,046		\$3,092,016
Number of Publications in Refereed Journals From Center Research	79		54
Number of Invention Disclosures	22		15
Number of Licenses/Options Executed	0		0
Licensing Income Received (\$)	\$0		\$0
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	9		3
Collaborations with Private Industry	8		3
Collaborations with K-12 Education Systems/Schools	0		0
Undergraduate and Graduate Students Supported with Center Funds	5		5
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies <i>with a physical presence, or employees, in Florida</i>	2		0
Jobs Created By Start-Up Companies Associated with the Center	10		0
Specialized Industry Training and Education	2		0
Private-sector Resources Used to Support the Center's Operations	\$500,000		\$300,000
<b>Narrative Comments:</b>			

<b>University of Florida Centers of Excellence</b>			
<b>Name of Center:</b>	Center for Nano-Bio Sensors (CNBS)	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2006-07		
<b>Research Effectiveness</b> <i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For		89	9
Value of Competitive Grants Applied For (\$)		\$101,836,677	\$4,926,962
Number of Competitive Grants Received		43	7
Value of Competitive Grants Received (\$)		\$21,009,204	\$2,743,769
Total Research Expenditures (\$)		\$3,394,713	\$812,886
Number of Publications in Refereed Journals From Center Research		134	43
Number of Invention Disclosures		48	8
Number of Licenses/Options Executed		3	2
Licensing Income Received (\$)		\$0	\$0
<b>Collaboration Effectiveness</b> <i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions		10	10
Collaborations with Private Industry		6	2
Collaborations with K-12 Education Systems/Schools		5	2
Undergraduate and Graduate Students Supported with Center Funds		7 and 28	6 and 7
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies <i>with a physical presence, or employees, in Florida</i>		3	1
Jobs Created By Start-Up Companies Associated with the Center		53	21
Specialized Industry Training and Education		5	4
Private-sector Resources Used to Support the Center's Operations		\$23	\$12
<b>Narrative Comments on next page.</b>			



**Appendix A  
Individual Tables Regarding Centers of Excellence**

University of Florida Centers of Excellence	
Name of Center	Center for Nano-Bio Sensors (CNBS)
Narrative Comments [Most Recent Year]:	
<p>The Center for Nano-Bio sensors (CNBS) at the University of Florida was formed in 2007 to invest strategic resources on the development and commercialization of a number of promising nano-bio technologies that focus on applications in medical diagnostics and homeland security. The operation and success of CNBS is based on a comprehensive model that includes several foci:</p> <ul style="list-style-type: none"> <li>- Leverage: funding from CNBS is markedly enhancing the ability of researchers to seek additional funding from a number of state, federal and private sources. Center sponsorship has facilitated funding success for CNBS researchers of about 59% (funded vs. solicited) during FY 09-10.</li> <li>- Multidisciplinary and Interdisciplinary Teams Promoting Enabling Synergy. The CNBS structure promotes faculty and researchers to team up to develop innovative technologies.</li> <li>- Research Effectiveness: CNBS sponsored technologies are based on strong intellectual property platforms that would enable commercialization.</li> <li>- Economic Development Effectiveness. CNBS has promoted, facilitated, and enhanced the growth of 3 startup companies in Florida (Banyan Biomarkers, Xhale Inc., and Xhale Innovations Inc.). CNBS has also aided in the creation and maintenance of 53 positions in the State of Florida, and has facilitated the acquisition of over \$20M in venture capital and other investments for companies associated with CNBS.</li> <li>- Focus on Commercialization: Projects sponsored by CNBS are periodically reviewed and assessed on their commercialization efforts. During the last year CNBS has been involved in several success stories: <ul style="list-style-type: none"> <li>• Xhale Innovations Inc., was launched in 2009 as a subsidiary of Xhale Inc., to further develop and commercialize the promising hand washing sensing device HyGreen which has already generated 10 jobs.</li> <li>• Another example is the highly recognized social and economic impact of Banyan Biomarkers which is working on the development of a traumatic brain injury (TBI) blood test and has recently received over \$25M in a DoD contract to continue this work in the State of Florida.</li> </ul> </li> </ul> <p>(<a href="http://www.gainesville.com/article/20101017/ARTICLES/101019471/1118?p=1&amp;tc=pg">http://www.gainesville.com/article/20101017/ARTICLES/101019471/1118?p=1&amp;tc=pg</a>)</p>	

University of Florida Centers of Excellence			
Name of Center:	FISE Energy Technology Incubator	Cumulative (since inception to June 2010)	Fiscal Year 2009-10
Year Created:	2006-07		
Research Effectiveness			
<i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For		>75	75
Value of Competitive Grants Applied For (\$)		\$289,980,000	\$96,650,000
Number of Competitive Grants Received		>112	112
Value of Competitive Grants Received (\$)		\$80,500,000	\$11,9000,000
Total Research Expenditures (\$)		\$29,300,000	\$3,700,000
Number of Publications in Refereed Journals From Center Research		396	162
Number of Invention Disclosures		36	14
Number of Licenses/Options Executed		3	2
Licensing Income Received (\$)		\$60,000	N/A
Collaboration Effectiveness			
<i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions		58	35
Collaborations with Private Industry		81	21
Collaborations with K-12 Education Systems/Schools		N/A	N/A
Undergraduate and Graduate Students Supported with Center Funds		261	111
Economic Development Effectiveness			
Number of Start-Up companies with a physical presence, or employees, in Florida		9	N/A
Jobs Created By Start-Up Companies Associated with the Center		107	73
Specialized Industry Training and Education		20	4
Private-sector Resources Used to Support the Center's Operations		\$890,000	\$N/A
<b>Narrative Comments on next page.</b>			

**Appendix A  
Individual Tables Regarding Centers of Excellence**

University of Florida Centers of Excellence	
<b>Name of Center</b>	FISE Energy Technology Incubator
<b>Narrative Comments [Most Recent Year]:</b>	
<p>The FISE Energy Technology Incubator has undergone significant changes this past year. The original Director, Dr. Eric Wachsman, has relocated to the University of Maryland. The new Interim Director is Dr. David Norton, who also serves as the Associate dean for Research and Graduate Programs in the College of Engineering. The FISE Energy Technology Incubator Center of Excellence includes two coordinated operations, namely the Prototype Development and Demonstration Laboratory and the Florida Center for Renewable Chemicals and Fuels. This year, the operation of the Prototype Development and Demonstration Laboratory was transitioned into the Major Analytical Instrumentation Center (MAIC), which is a Service Center with pre-existing infrastructure to manage user facilities. The Florida Center for Renewable Chemicals and Fuels continues to function under the leadership of Dr. Lonnie Ingram. This organizational restructuring has the potential to yield greater operational efficiency. The FISE Energy Technology Incubator remains one of the few state-of-the-art facilities in Florida for rapid prototyping of energy technology and related devices.</p> <p>Despite the ongoing economic downturn, companies are continuing to visit the FISE laboratories and are actively seeking funding for projects there. One company, Emissions and Power Solutions (EPS), has issued a subcontract to FISE through the University of Maryland for the development of gas sensors based on UF technology.</p>	

University of Florida Centers of Excellence			
<b>Name of Center:</b>	Regenerative Health Biotechnology	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2002-03		
<b>Research Effectiveness</b>			
<i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For		86	32
Value of Competitive Grants Applied For (\$)		\$25,120,206	\$7,835,439
Number of Competitive Grants Received		65	21
Value of Competitive Grants Received (\$)		\$14,556,295	\$4,100,107
Total Research Expenditures (\$)		\$17,127,776	\$5,897,715
Number of Publications in Refereed Journals From Center Research		122	20
Number of Invention Disclosures		n/a	n/a
Number of Licenses/Options Executed		2	2
Licensing Income Received (\$)		\$3,000	\$3,000
<b>Collaboration Effectiveness</b>			
<i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions		88	36
Collaborations with Private Industry		206	50
Collaborations with K-12 Education Systems/Schools		109	30
Undergraduate and Graduate Students Supported with Center Funds		264	54
<b>Economic Development Effectiveness</b>			
Jobs Created By Start-Up Companies Associated with the Center		227	24
Specialized Industry Training and Education		40	14
Private-sector Resources Used to Support the Center's Operations		\$46	\$19
<b>Narrative Comments on next page.</b>			



**Appendix A  
Individual Tables Regarding Centers of Excellence**

University of Florida Centers of Excellence	
<b>Name of Center</b>	Regenerative Health Biotechnology
<b>Narrative Comments [Most Recent Year]:</b>	
<p>Established in 2003 with launch of operations in 2006, the University of Florida's Center of Excellence for Regenerative Health Biotechnology (CERHB, <a href="http://cerhb.rgp.ufl.edu/">http://cerhb.rgp.ufl.edu/</a>) is a biomedical translational research support center with the mission to stimulate promising research and facilitate first-in-man studies leading to commercialization of technologies that will provide treatments for human diseases, as well as create new companies and high-wage jobs. Expertise, training programs, and drug manufacturing services are provided to the biotechnology industry and to biomedical research institutions. A new 23,500ft<sup>2</sup> GMP Manufacturing facility was designed, built-out, outfitted, commissioned, and validated (called Florida Biologix®, <a href="http://www.floridabiologix.ufl.com/">http://www.floridabiologix.ufl.com/</a>) utilizing state and federal funding (funded by US Dept. of Commerce EDA). Drug products made in this facility are suitable for pre-clinical, and Phase I and II human clinical trials. Client sponsors currently include Florida companies, multi-national and foreign companies, domestic private and public companies, and the NIH. The CERHB Education Center (<a href="http://cerhb.rgp.ufl.edu/education_index.html">http://cerhb.rgp.ufl.edu/education_index.html</a>) was established as a state resource. Hands-on curricula were developed in Industrial Biotechnology at the College and High School levels including student and teacher training (funded by NSF). In anticipation of these new course offerings, the CERHB submitted a 3-year curriculum in industrial biotechnology to the Florida DOE, this curriculum was approved for CTE and Science credit in December 2006 and offered for the first time in the Fall of 2007 and over 900 high school now take the courses, with first graduates in May 2010. In addition, hands-on curricula in Industrial Biotechnology were developed for entry-level and incumbent workers throughout the state (funded by Workforce Florida, Inc.). An Advisory Council has been assembled comprised of leaders from industry, workforce boards, and economic development agencies from across the state. Industry focus groups, a needs assessment, and surveys have been conducted to determine the current and future needs of companies from around the state. Two curricula were offered for the first time in 2007, and over 220 students have graduated. Combined on-line and wet lab training leads to industry-recognized certificates. The CERHB and three biomedical institutes in France signed a four-year international cooperative agreement on biopharmaceutical research designed to help bring new therapies to clinical trials. The CERHB has established an extensive support and participation network of 85 partners including companies, Research Institutes, Professional Societies, Industry Organizations, Chambers of Commerce, materials and equipment suppliers, Business Development Boards, Community Colleges, school districts, and Regional Workforce Boards. These partners are motivated to work with CERHB to implement the programs and services statewide and nationally. In 2009- 2010, CERHB expanded its marketing efforts for drug development services. New and continuing research grants were awarded from domestic and international sources. CERHB also expanded the reach of the education programs, with higher visibility, increased enrollments, more school districts offering the curriculum, education at all levels (high-school, college, university, and professional), and international collaboration.</p>	

University of South Florida Centers of Excellence			
<b>Name of Center:</b>	Florida Center of Excellence for Biomolecular Identification and Targeted Therapeutics	<b>Cumulative</b> (since inception to June 2010)	<b>Fiscal Year</b> <b>2009-10</b>
<b>Year Created:</b>	2006-07		
<b>Research Effectiveness</b>			
<i>Only includes data for activities <u>directly</u> associated with the Center. Does not include the non-Center activities for faculty who are associated with the Center.</i>			
Number of Competitive Grants Applied For	90		24
Value of Competitive Grants Applied For (\$)	\$55,144,305		\$11,557,013
Number of Competitive Grants Received	32		6
Value of Competitive Grants Received (\$)	\$10,470,067		\$304,756
Total Research Expenditures (\$)	\$9,470,000		\$3,390,277
Number of Publications in Refereed Journals From Center Research	90		33
Number of Invention Disclosures	13		3
Number of Licenses/Options Executed	2		0
Licensing Income Received (\$)	\$163,071.00		\$0
<b>Collaboration Effectiveness</b>			
<i>Only reports on relationships that include financial or in-kind support.</i>			
Collaborations with Other Postsecondary Institutions	19		16
Collaborations with Private Industry	21		18
Collaborations with K-12 Education Systems/Schools	4		4
Undergraduate and Graduate Students Supported with Center Funds	27		20
<b>Economic Development Effectiveness</b>			
Number of Start-Up companies <i>with a physical presence, or employees, in Florida</i>	0		0
Jobs Created By Start-Up Companies Associated with the Center	0		0
Specialized Industry Training and Education	7		7
Private-sector Resources Used to Support the Center's Operations	\$0		\$0
<b>Narrative Comments on next page.</b>			

**Appendix A  
Individual Tables Regarding Centers of Excellence**

University of South Florida Centers of Excellence	
<b>Name of Center</b>	Florida Center of Excellence for Biomolecular Identification and Targeted Therapeutics
<b>Narrative Comments [Most Recent Year]:</b>	
<p>(1) FCoE-BITT partnered with Hillsborough Community College and the University of Florida to host an industrial biotechnology workshop at HCC in Brandon.</p> <p>(2) Marilyn Barger, Ph.D., Director of FLATE and the FCoE-BITT office at HCC, served as a lead organizer of the High Impact Technology and Exchange Conference - a conference on workforce education.</p> <p>(3) FCoE-BITT provided instructors and facilities for courses towards the Masters in Biotechnology at USF.</p> <p>(4) Collaborative Study with HCC: BITT HCC has completed a study and a report has been generated titled, "Inventory for the Greater Tampa Bay Region's Biotechnology Industry." A follow on study to identify workforce development needs in the Tampa Bay region (Hillsborough, Pinellas, Polk, Pasco, Sarasota, Manatee and Hernando counties) that is specific to BITT missions is ongoing. The results of these studies will be used to tailor course content or direct training at USF and the local community colleges.</p> <p>(5) Ran an 8 hour course for 11 incumbent workers and students ("Working in a Regulated Environment").</p> <p>(6) Held a community college program advisory committee meeting in August 2009 with 5 industry partners.</p> <p>(7) Ran a 1 week hands-on workshop for 29 regional science teachers in partnership with Bio-RAD and 2 out-of-state colleges.</p> <p>Core Facilities providing services in Biotechnology Development and Testing, Proteomics and NMR Structural Biology were established.</p>	

**Appendix B  
Individual Tables Regarding World Class Scholars**

Florida International University 21st Century World Class Scholars Program						
World Class Scholar(s)	Scholar's Field	Grant Dollars		Report the cumulative activity since each scholar's award.		
		Amount Awarded (Thousand \$)	Cumulative Amount Expended (Thousand \$)	External Research Awards (Thousand \$)	Patents Filed / Issued	Licensing Revenues Generated (\$)
Joe Leigh Simpson M.D	Medical Genetics	\$ 1,000	\$ 376	\$ 1,637	0	\$ 0
<b>TOTAL</b>		<b>\$ 1,000</b>	<b>\$ 376</b>	<b>\$ 1,637</b>	<b>0</b>	<b>\$ 0</b>
<b>Narrative Comments</b>						
<p>External Research Award include amounts awarded from:</p> <p>a) The Department of Defense for Mass Scale Biosensor Threat Diagnostic for In-Theater Defense Utilization - \$1.4M</p> <p>b) Health Resources and Services Administration (HRSA) for lab equipment \$235,620</p> <p>The FIU College of Medicine was fortunate that its aggressive research agenda led to the awarding of several grants that were leveraged to support numerous activities that might otherwise have been supported by the 21st Century Scholars award. In all of our research endeavors we attempt to secure funding from non-state sources, which allows for the expansion and increases the ability to sustain programs. In other words, the College of Medicine is now in a position to optimize the 21st Century Scholars award toward the next level of genetics research. Moreover, while waiting for laboratory renovations and equipment purchases, the funds provided were not fully expended even though other awards were tapped to engage genetics researchers who would ultimately be in a position to access the 21st Century Scholars funds. Indeed numerous construction projects were underway on the FIU campus that led to the extension of the completion date of several laboratory renovations. The shipping time on several equipment items was much longer than anticipated. However, the FIU College of Medicine and the FIU Division of Research continued to develop research initiatives in genetics that were preparing the institution for maximizing the 21st Century Scholars Award. The funds should be expended by the end of March 2012.</p>						

Florida State University 21st Century World Class Scholars Program						
World Class Scholar(s)	Scholar's Field	Grant Dollars		Report the cumulative activity since each scholar's award.		
		Amount Awarded (Thousand \$)	Cumulative Amount Expended (Thousand \$)	External Research Awards (Thousand \$)	Patents Filed / Issued	Licensing Revenues Generated (\$)
Dr. David Gilbert	Biological Sciences/ Molecular Biology	\$ 1,000	\$ 1,000	\$ 2,677	1	\$ 0
Dr. David Larbalestier	Mechanical Engineering/ Applied Superconductivity	\$ 3,000	\$ 3,000	\$ 10,891	0	\$ 0
Dr. Eric Hellstrom	Mechanical Engineering/ Applied Superconductivity	\$ 1,000	\$ 1,000	\$ 2,586	0	\$ 0
<b>TOTAL</b>		<b>\$ 5,000</b>	<b>\$ 5,000</b>	<b>\$ 16,154</b>	<b>1</b>	<b>\$ 0</b>
<b>Narrative Comments</b>						
Professor Gilbert has submitted one invention disclosure which is currently patent pending under U.S. Patent Application no. 12,200,186 which filed 8/28/2008. There are no licenses that have been signed						

**Appendix B  
Individual Tables Regarding World Class Scholars**

University of Central Florida 21st Century World Class Scholars Program						
World Class Scholar(s)	Scholar's Field	Grant Dollars		Report the cumulative activity since each scholar's award.		
		Amount Awarded (Thousand \$)	Cumulative Amount Expended (Thousand \$)	External Research Awards (Thousand \$)	Patents Filed / Issued	Licensing Revenues Generated (\$)
Marwan Simaan		\$ 1,000	\$ 259	\$ 451	0	\$ 0
Dr. van der Wedie replacement		\$ 1,000	\$ 0	\$ 0	0	\$ 0
<b>TOTAL</b>		<b>\$ 2,000</b>	<b>\$ 259</b>	<b>\$ 451</b>	<b>0</b>	<b>\$ 0</b>
<b>Narrative Comments</b>						
<p><b>Marwan Simaan:</b> In regards to the State's return on the investment, since joining UCF Dr. Simaan received \$551,219 in research grants from the National Science Foundation for the following 4 projects: (1) Patient-Adaptive Feedback Control of Rotary Heart Assist Devices (\$193,328); (2) An Exploratory and Radically Different Approach for Control of a Tandem Hot Metal Strip Rolling Process for Product Quality Improvement (\$123,979); (3) Patient-Adaptive Feedback Control of Rotary Heart Assist Devices- Supplement (\$33,963); (4) Game and Teaming Strategies for Networked Systems (\$199,949). Additionally, he published 10 refereed journal papers, and 13 Conference papers (available upon request).</p> <p>Since joining UCF, Dr. Simaan served and represented UCF on numerous National and International professional committees within the National Academy of Engineering, the National Science Foundation, the American Association for the Advancement of Science, the Institute of Electrical and Electronics Engineers and others. He also successfully nominated several UCF faculty members to Fellowship in the American Association for the Advancement of Science and membership in the Frontiers of Engineering Program of the National Academy of Engineering. In January 2009 Dr. Simaan was appointed interim Dean and in January 2010 he was appointed Dean of the College of Engineering and Computer Science at UCF. In this UCF leadership position he is now responsible for the administration of the College including instruction, research program development, personnel, and budget. The college is among the 10 largest in the country with four major departments and around 5800 undergraduate and 1300 graduate students, 110 Faculty members and 85 Staff associates.</p> <p><b>Dr. van der Weide replacement:</b> As per our 21st Century Scholar proposal, we placed BOG award funds in an endowment account with the UCF Foundation for the purpose of establishing a Chaired Professorship in the Center for Research and Education in Optics and Lasers. Specifically, UCF placed a total of \$1 M in an account for use as startup funds for the proposed Scholar. We had extensive, good faith, negotiations with a candidate for the position from the University of Wisconsin. This candidate accepted our offer, but requested a delay prior to his arrival to clear obligations that he had at his institution, which was granted. At the end of the requested period, however, the candidate again requested a delay due to family issues, and also requested that he be allowed to remain at his home institution part time for an indefinite period. Finally we decided that these repeated delays were not converging to an acceptable conclusion for the university so the offer was withdrawn. During this same period, the nation's economy crashed and the value of the endowment severely dropped, thus making it impossible to recruit a top scholar for the 21st Century Scholar position. The endowment has increased in value during the past year, but is still below the level that would allow income to support the position. We intend to resume recruiting for a 21st Century Scholar when the endowment recovers. Board of Governor's staff note: The University is being advised that it needs to hire a faculty member in the discipline associated with the original award by Fall 2011.</p>						

University of Florida 21st Century World Class Scholars Program						
World Class Scholar(s)	Scholar's Field	Grant Dollars		Report the cumulative activity since each scholar's award.		
		Amount Awarded (Thousand \$)	Cumulative Amount Expended (Thousand \$)	External Research Awards (Thousand \$)	Patents Filed / Issued	Licensing Revenues Generated (\$)
Grant McFadden	Molecular Genetics/ Microbiology	\$ 1,000	\$ 1,000	\$ 3,394	1	\$ 0
Johannes Vieweg	Genetic and Cellular Immunology	\$ 1,000	\$ 1,000	\$ 7,304	8	\$ 0
Kirk Conrad	Functional Genomics	\$ 1,000	\$ 1,000	\$ 1,764	6	\$ 0
Linda Bartoshuk	Behavioral Neuroscience	\$ 1,000	\$ 1,000	\$ 3,130	0	\$ 0
Martin Glicksman	Materials Science and Engineering	\$ 1,000	\$ 1,000	\$ 200	0	\$ 0
Scott Perry	Materials Science and Engineering	\$ 1,000	\$ 1,000	\$ 1,521	0	\$ 0
<b>TOTAL</b>		<b>\$ 6,000</b>	<b>\$ 6,000</b>	<b>\$ 17,313</b>	<b>15</b>	<b>\$ 0</b>
<b>Narrative Comments</b>						

**Appendix B  
Individual Tables Regarding World Class Scholars**

<b>University of South Florida 21st Century World Class Scholars Program</b>						
<b>World Class Scholar(s)</b>	<b>Scholar's Field</b>	<b>Grant Dollars</b>		<b>Report the cumulative activity since each scholar's award.</b>		
		<b>Amount Awarded (Thousand \$)</b>	<b>Cumulative Amount Expended (Thousand \$)</b>	<b>External Research Awards (Thousand \$)</b>	<b>Patents Filed / Issued</b>	<b>Licensing Revenues Generated (\$)</b>
James Mihelcic		\$ 1,000	\$ 1,000	\$ 642	0	\$ 0
John Adams		\$ 1,000	\$ 1,000	\$ 4,739	0	\$ 0
Richard Gitlin		\$ 1,000	\$ 1,000	\$ 0	0	\$ 0
Thomas Unnasch		\$ 1,000	\$ 1,000	\$ 4,933	1	\$ 0
<b>TOTAL</b>		<b>\$ 4,000</b>	<b>\$ 4,000</b>	<b>\$ 10,314</b>	<b>0</b>	<b>\$ 0</b>
<b>Narrative Comments</b>						
<p>The grant dollars awarded per scholar include the initial award amount and corresponding match dollars.</p> <p>*Dr. Gitlin has submitted grant proposals totaling \$548,230.</p> <p>** Cumulative Amount Expended as of 10/26/10 (ppe 9/30/10)</p> <p>Drs John Adams and Thomas Unnasch have expended their total award amount</p>						

**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

Florida A&M University State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Tech Transfer	\$ 41,000	\$ 40,885
<b>Phase II Grants</b>		
<b>Phase III Grants</b>		
<b>Total for all SURCAG Grants</b>	<b>\$41,000</b>	<b>\$40,885</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		
<p><b>(1) Key Milestones/deliverables:</b> The grant funds were used to develop models for the early detection and assessment of commercializable university research. The two early assessments models--Concept for Transforming a Disclosed Idea into a Licensed Idea and Evaluation of A New Framework and Focus for University Technology Transfer-- were developed to assist FAMU's Office of Technology Transfer with accelerating its commercialization efforts.</p> <p><b>(2) Return on Investment:</b> Based on the models mentioned above, the return to FAMU and to the State will be realized as the Office of Technology Transfer utilizes the models to evaluate its intellectual assets and move the research in a direction that supports the following activities: the creation of successful new ventures; the identification of serial entrepreneurs; the identification and procurement of early-stage capital; the establishment of university spin-off companies and participation in the federal and state SBIR/STTR grant programs.</p>		

Florida Atlantic University State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
<b>Phase II Grants</b>		
<b>Phase III Grants</b>		
CHS Resources	\$184,294	\$184,294
<b>Total for all SURCAG Grants</b>	<b>\$184,294</b>	<b>\$184,294</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		
<p><b>(1) the project's progress towards completing its key milestones/deliverables;</b>  Clinical Work towards product development continues  <ul style="list-style-type: none"> <li>• Western IRB clinical protocols originally filed 8/25/08</li> <li>• Two (2) proof of concept studies on AK completed</li> <li>• Proof of concept study for sulindac protection in humans against UV damage.</li> <li>• FDA consultant engaged</li> <li>• Animal studies conducted in Fall 2008 to investigate the ability of sulindac to protect mice against UVB damage.</li> <li>• CHS has committed over \$184,294 towards matching requirements thru end of FY10</li> <li>• Fund raising by CHS continued through the year to begin Phase I clinical trials in mid FY11</li> <li>• Due to previous delays and refinements in the formulation studies, as well a tough investment/fundraising environment, original project milestones in the license agreement have been amended to reflect later start dates.</li> <li>• Company and FAU are negotiating a license for Company to acquire rights for a related technology for development as an OTC product</li> <li>• Company is still development stage company with one uncompensated employee</li> </ul> </p> <p><b>(2) the project's return on investment for the university and state.</b>  CHS is still a development stage company with one employee and fundraising continues. CHS is in negotiation with investors for a significant placement that will allow it to apply for Investigative New Drug status by January 2011 to be followed by the commencement of human Phase I clinical trials in late 2011. As of October 2010, CHS is not generating any revenue, so there is no current ROI to FAU or State.</p> <p><b>(3) status update on the project's ability to generate sufficient revenues to sustain a profitable operation.</b>  As a development stage company with no current revenues, but active fundraising, it is too early to answer that question. Initial introduction of an OTC product that would generate revenues not anticipated before 2011.</p>		

**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

Florida International University State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Tech Transfer Enhancing Biomedical Technology	\$ 50,000	\$ 50,000
<b>Phase II Grants</b>		
<b>Phase III Grants</b>		
<b>Total for all SURCAG Grants</b>	<b>\$50,000</b>	<b>\$50,000</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		
<p>Progress towards completing its key milestones/deliverables (deliverables are italicized): Through our marketing, as semi-finalists in B-plan competitions, and as presenters at investor showcases, we have been able to achieve the following deliverables:</p> <ul style="list-style-type: none"> <li>• <i>Increased contacts with interested investors and potential licensees</i></li> <li>• <i>Accepted to technology transfer showcases</i></li> <li>• <i>Established additional relationships with investors, serial entrepreneurs, and research organizations throughout Florida, to assist in the movement of technologies to the marketplace</i></li> <li>• <i>Improved external outreach and follow up on technology transfer and commercialization leads</i></li> </ul> <p>By having additional resources for marketing and assessment (e.g. the purchase of market intelligence and tech transfer software), we have been able to achieve the following deliverables:</p> <ul style="list-style-type: none"> <li>• <i>Implement a more streamlined and consistent disclosure assessment process</i></li> <li>• <i>Enhance and improve the technology management database</i></li> <li>• <i>Enhance our data on expert reviewers and consultants for technology reviews</i></li> </ul> <p>Given that the following deliverables directly reflect SURCAG's intent of leading to the commercialization of products and services developed from the research conducted at state universities, below are the specific details for the following deliverables:</p> <p><b>Develop at least one business opportunity for submission as a SURCAG Phase II proposal:</b>            We have been able to do much with our Phase I support (i.e., having preliminary business plans), therefore we are looking at more than one business opportunity for submission to the SURCAG Phase II and Phase III programs.</p> <p><b>Identify at least two potential products stemming from the targeted technologies:</b> We have identified three potential products: (1) A percutaneous artificial valve that has the beneficial properties of a natural tissue valve while lacking the negative properties of a mechanical valve; (2) A catheter delivery system that can be used with any percutaneous valve; (3) A hand-held optical probe based imaging system.</p>		

Florida International University State University Research Commercialization Assistance Grants
<b>Narrative Comments (continued):</b>
<p><b>Return on investment for the Florida International University and the State of Florida:</b>            We were able to market, showcase, network around the technology, and promote technology developed in the State of Florida: BIO (The Biotechnology Association) (2009), Life Sciences Summit (2009), Florida angel groups (2008, 2010) (two separate ones), Southeast Bio (SEBIO) (2008 and future 2010), TechConnect Showcase (2009), World's Best Technologies (2009).</p> <p>The SURCAG support has also enhanced our ability to serve as an effective resource to the FIU community through the following: Identification and assessment of promising university technologies, Business plan development/market assessment support, Commercialization strategies, Partnership development, Linking faculty researchers to individuals with business expertise, Introduction to funding sources including venture capital and angel investors.</p> <p>This SURCAG award has been instrumental in our efforts to promote and garner interest in technologies developed through research conducted at Florida International University.</p>



**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

Florida State University State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Tech Transfer	\$ 50,000	\$ 50,000
<b>Phase II Grants</b>		
Tech Transfer	\$ 100,000	\$81,189
<b>Phase III Grants</b>		
BuckyPaper, Inc	\$250,000	\$0
<b>Total for all SURCAG Grants</b>	<b>\$400,000</b>	<b>\$131,189</b>
<p><b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b></p> <p><b>FSU Phase I</b> grant of \$50,000 FSU's Phase I commitment was to establish a process for identifying technologies that could support new business formation. Five prospects were identified in the proposal. One, for electrolytic production of hydrogen, has been licensed to a new Florida start-up company, World Energy, Inc. A second, using a library of images as commercial art, progressed to Phase II and has been licensed to a new local start-up company BevShots, Inc. A third, the H2O2 generator, is being re-evaluated for its capability to produce Hydrogen in a low power, low temperature process. Over the past two years, about 50 new disclosures have been formally evaluated by Phase I funded interns, to assess their commercial potential. The authors of thirty five of these have been invited to submit proposals for GAP funding, to improve their potential as licensable technologies. Sixteen of these projects were approved for a total of \$500,000 investment by the FSU Research Foundation. We expect four to six of these to become new startup candidates. We are currently employing 2 student interns to conduct evaluations of all incoming disclosures for commercial promise and to identify potential start-up companies for Phase II activities. Phase I funding for this effort has been exhausted. Our request for continued funding in the 2010 competition was not successful.</p> <p><b>FSU's phase II</b> commitment was to establish a better process to recruit entrepreneurs and develop fundable business plans. Business plans were committed for two previously identified opportunities, and any new business opportunities that emerged from Phase I. At Oct 1, we had developed initial plans and recruited entrepreneurs for four opportunities. One, RF inspection of shipping containers, was abandoned when we discovered an established competitor. A second, for development of flash storage, received \$100K (GAP II) internal prototype funding. A local start-up company has been formed to evaluate a third technology, for active control of turbulence with its first application for cars. A fourth technology, for cardiovascular treatment, has been the subject of license negotiations with a company that has had difficulty moving out of the startup phase. FSU has used its match dollars to create the Chempreneur™ program to team disclosed chemistry lab projects and graduate students with business school students to prepare a Commercialization Plan (Phase 1). Two start-ups have graduated from this class to date. In addition, FSU dollars were used to create the Technology, Entrepreneurship and Commercialization course to team MBA students with Office of TT projects to create Commercialization plans. FSU has created the Annual Sneak Peek (2nd Annual Oct 19/10) to highlight start-up opportunities and other projects in the pipeline for the Panhandle business community. This will evolve into an investor forum for FSU start-ups.</p>		
<p><b>Narrative Comments continues on next page.</b></p>		

Florida State University State University Research Commercialization Assistance Grants
<p><b>Narrative Comments (continued):</b></p> <p>FSU's <b>phase III</b> commitment, to support the formation of a start-up company to develop products such as "Buckypaper", was based on technology from the FSU High Performance Materials Institute. Two efforts took place in late 2008; but neither resulted in an operational start-up company in spite of significant efforts. A third effort to organize the company, using outside expertise, began in May 2009, but did not succeed. A request was approved in 2010 to re-purpose the entire unspent \$250,000 and the FSU \$250,000 to create a machine to fabricate larger pieces of Buckypaper for evaluation by potential commercial users as a first step to scale up and further commercialization.</p> <p>FSU is making significant progress in pursuing our plan to commercialize the High-Performance Materials Institute technologies for the benefit of Florida and US economies. A contract has been executed with Dr. Les Kramer to help us design/build a machine designed to produce Buckypaper that can meet a range of end user specifications. Dr. Kramer and HPMI staff have visited a number of engineering firms and is preparing specifications for a RFQ to solicit proposals from them. We anticipate being able to engage an acceptable firm for designing and then building a machine to be delivered and set up in the HPMI building to produce Buckypaper. No firm bid has yet been submitted, nor accepted, but Les Kramer is moving the whole project forward.</p>



**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

University of Central Florida State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Industrial Scale Production of Low Cost Enzymes for Cellulosic Ethanol	\$ 40,500	\$ 39,026
MyCaseSpace	\$ 25,000	\$ 25,000
Microfluidic Chips	\$30,000	\$14,141
<b>Phase II Grants</b>		
SimVroom	\$ 25,000	\$ 24,413
<b>Phase III Grants</b>		
LP Photonics	\$184,294	\$160,742
<b>Total for all SURCAG Grants</b>	<b>\$ 304,794</b>	<b>\$263,322</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		
<p><b>Industrial Scale Production of Low Cost Enzymes for Cellulosic Ethanol:</b> A portion of the funds from this award allowed us to develop a new licensing approach and license agreement template for the cellulosic enzyme technology. In addition, some of the funds were used to purchase subscriptions to databases that helped to improve our institution-wide process by allowing us to access industry financial and market intelligence information. Also, a portion of the funds was used to pay a marketing assistant to build a portfolio of technology summaries that we advertised to prospective licenses. These funds allowed us to enhance our commercialization process.</p> <p><b>MyCaseSpace:</b> Funding from this award was used to facilitate commercialization of the MyCaseSpace technology. A consultant was hired to assess the marketing potential of MyCaseSpace and several conferences were attended to present the MyCaseSpace technology. The presentations were able to obtain market and business development feedback. To date, MyCaseSpace has struggled to make headway in the marketplace.</p> <p><b>Microfluidic Chips:</b> A portion of the funds from this award allowed us to establish a relationship with Boston Microfluidics. This relationship was critical to better understanding and exploring the specific markets in which UCF's microfluidics technology can be used. Funds were also used to pay Marketing Associates to review market studies, technology summaries and attend international conferences to market our microfluidics technology; ultimately enhancing our commercialization process.</p> <p><b>SimVroom:</b> We are in the process of setting the foundation of opening up our Real World Laboratory, defining the partnerships, funding, and facility to begin the product development of the SimVroom product. The focus of the Real World Laboratory would be to help advance community learning centers to provide more viable content with more depth and breadth that also engaged visitors with real, relevant, and relational educational opportunities. We look forward to an eventful opening of the Real World Laboratory within a civic institution and the jump start production of our first product model for public consumption.</p> <p><b>LP Photonics:</b> This Phase III award was made to UCF to aid the establishment of a new company developing technology associated with next-generation lithography for mass computer chip fabrication.</p>		

University of Florida State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
ASEDRA	\$ 27,000	\$ 27,000
Kairos	\$ 34,900	\$ 34,900
Neuromagnetix	\$ 40,000	\$ 40,000
Oceanus	\$ 25,000	\$ 25,000
Self Sterilization	\$ 15,000	\$ 15,000
WiOptix Cancer Detection	\$ 38,000	\$ 38,000
<b>Phase II Grants</b>		
Curfacttor	\$ 75,000	\$75,000
<b>Phase III Grants</b>		
Audigence	\$184,293	\$184,293
Sharklet	\$250,000	\$250,000
<b>Total for all SURCAG Grants</b>	<b>\$689,193</b>	<b>\$689,193</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		
<p><b>Phase I Grants</b>            Kairos: Technology determined not to be viable. Company discontinued.            Oceanus: Company could not raise capital due to severe recession. Company has dissolved.            WiOptix - Cancer Detection technology and potential company still under active and extensive development.            ASEDRA: Technology validated, company formed, working to secure first contract.            Neuromagnetix: Technology and company still under active development.            Self Sterilization: Technology validated, company being formed, investment capital being raised.</p> <p><b>Phase II Grants</b>            Curfacttor: Company formed, \$1 million investment capital raised.</p> <p><b>Phase III Grants</b>            Sharklet: Raised 1.5 MM in private investments.            Audigence: Raised to date - \$3,750,000, Market launch - Limited National launch in January 2011 with one of big 6 Hearing Aid companies.</p>		

**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

University of North Florida State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Tech Transfer	\$ 26,755	\$ 26,755
<b>Phase II Grants</b>		
<b>Phase III Grants</b>		
<b>Total for all SURCAG Grants</b>	<b>\$26,755</b>	<b>\$26,755</b>
Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.		
(1) the project's progress towards completing its key milestones/deliverables; The project was completed and a final report was submitted to the BOG on May 12, 2010.		
(2) the project's return on investment for the university and state. ROI: A Feasibility Study developed in the project has provided a framework for marketing UNF sensor technologies, including current efforts at obtaining private funding for device development.		

University of South Florida State University Research Commercialization Assistance Grants		
Project Name by Type of Grant	Cumulative	
	Awards	Expenditures
<b>Phase I Grants</b>		
Early Stage RAID	\$ 50,000	\$ 19,000
<b>Phase II Grants</b>		
Platinum Compounds	\$ 50,000	\$0
<b>Phase III Grants</b>		
<b>Total for all SURCAG Grants</b>	<b>\$100,000</b>	<b>\$19,000</b>
Narrative Comments on next page.		

**Appendix C**  
**Individual Tables Regarding State University Research Commercialization Assistance Grants**

<b>University of South Florida State University Research Commercialization Assistance Grants</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>
<p>USF Phase I Early Stage RAID (\$50,000). (1) Key milestones for this project included the submission and review of three RAID (now known as NExT) applications. The first submission to the RAID program was declined but recommended for resubmission under the new program, NExT. No commentary was provided for the review, and the application is currently being redrafted for potential submission in the coming cycles. The learning curve was steep but the process is becoming streamlined and more efficient and should be completed over the next year. Two additional new projects were submitted specifically under the NExT program.</p> <p>Both projects were reviewed and comments were provided indicating that upon resubmission these two projects might be selected. Further, an additional staff member of the office was trained in the process of writing these applications. (2) The return on investment for this Grant is multifold. First, positive commentary from the reviewers of the two NExT grants indicates that the USF Division of Patents &amp; Licensing is proficient in writing these applications, and that the shortcomings can be addressed through additional work by the faculty member. Second, the commentary identified the key areas of each project that are necessary in order to bring the project to a level where commercialization is likely. Third, the potential for successful selection of the projects is very high based upon the suggestions for resubmission of both projects. Lastly, the training funded under this grant the ability of the USF Division of Patents &amp; Licensing to successfully execute related commercialization grants, such as the Technology Transfer Funds offered through the Florida Biomedical Program, as well as afforded the potential to draft successful SBIRs and STTRs.</p> <p>USF Phase II Platinum Compounds (\$50,000): (1) Key milestones for this project included creating a business plan for the commercialization of anti-cancer drug compounds. During this process, it was identified that key areas of need for the platinum compounds under assessment were the ability to synthesize the compounds and evaluation of their mechanism of action in order to move forward with preclinical evaluation. USF has expended \$43,000 on further assessment and development toward synthesis. The assessments provided by experts contracted in the field have led us to the conclusion that the platinum-based compounds would be much more difficult to produce than originally anticipated. A similar assessment of a separate class of anticancer compounds, palmerolides, was conducted with results suggesting an excellent opportunity to synthesize the drugs. We have begun moving forward with initiating the business plan around the palmerolides including independent assessment of the synthetic process and preclinical needs in support of an Investigational New Drug Application (IND). This Grant will also fund the drafting of an SBIR that will be directed to the goal of conducting specific preclinical animal testing as required by the FDA prior to IND submission. (2) The return on investment for this Grant include the independent assessment of multiple compounds for synthesis and preclinical testing which adds to accuracy of the business plan under development and greatly increases the potential commercial value of the technologies should they be licensed. Additionally, the Grant will provide resources to quickly push the business plan in the direction of the more feasible development of palmerolides as anti-cancer agents, again generating critical independent evaluation. The expectation is that these efforts should be completed over the next year.</p>

<b>University of West Florida State University Research Commercialization Assistance Grants</b>		
<b>Project Name by Type of Grant</b>	<b>Cumulative</b>	
	<b>Awards</b>	<b>Expenditures</b>
<b>Phase I Grants</b>		
FTRSB State University Commercialization Assistance Grant UWF Phase I	\$ 50,000	\$ 50,000
<b>Phase II Grants</b>		
<b>Phase III Grants</b>		
<b>Total for all SURCAG Grants</b>	<b>\$50,000</b>	<b>\$50,000</b>
<b>Narrative Comments: For each project, provide a brief update on (1) the project's progress towards completing its key milestones/deliverables; and (2) the project's return on investment for the university and state.</b>		