



AGENDA
Strategic Planning Committee
Ballroom, Graham Center
Florida International University
Miami, Florida
November 20, 2013
2:15 p.m. – 3:45 p.m.

or
Upon Adjournment of Previous Meetings

Vice Chair: Ms. Patricia Frost
Members: Chopra, Colson, Lautenbach, Morton, Webster

- 1. Call to Order and Opening Remarks** **Governor Patricia Frost**
- 2. Approval of Committee Meeting Minutes:** **Governor Frost**
Minutes, [September 12, 2013](#)
Minutes, [September 27, 2013](#)
- 3. Initial State University System Educational Sites Inventory** **Dr. Jan Ignash**
*Interim Chancellor and
Chief Academic Officer,
Board of Governors*
- 4. Further Consideration of Strategic Plan Alignment** **Dr. Ignash**
- 5. Programs of Strategic Emphasis Update** **Dr. R.E. LeMon**
*Associate Vice Chancellor,
Academic and Student Affairs,
Board of Governors*

6. **University of South Florida Regional Institution
Missions**

Dr. Judy Genshaft
President,
University of South Florida

7. **Preeminent State Research University
Benchmark Plans**

Dr. Bernie Machen,
President,
University of Florida
Dr. Eric Barron,
President,
Florida State University

8. **Florida Center for Cybersecurity Report**

Dr. Genshaft

9. **Closing Remarks and Adjournment**

Governor Frost

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Approval of Minutes for Meetings held September 12, 2013, and
September 27, 2013

PROPOSED COMMITTEE ACTION

Approval of minutes for meeting held September 12, 2013 at the University of South Florida, and meeting held September 27, 2013 via telephone conference call.

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution

BACKGROUND INFORMATION

Committee members will review and approve the minutes for the meeting held September 12, 2013 at the University of South Florida, and the meeting held on September 27, 2013 via telephone conference call.

Supporting Documentation Included: Minutes: September 12, 2013 and
September 27, 2013

Facilitators/Presenters: Governor Patricia Frost

MINUTES
STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
STRATEGIC PLANNING COMMITTEE
NEW COLLEGE OF FLORIDA
SARASOTA, FLORIDA
SEPTEMBER 12, 2013

*Video or audio archives of the meetings of the Board of Governors
and its Committees are accessible at <http://www.flbog.edu/>.*

1. Call to Order and Opening Remarks

Governor Dean Colson convened the meeting of the Strategic Planning Committee at 11:33 a.m. on September 12, 2013 with the following members present: Dr. Manoj Chopra, Ed Morton, Ned Lautenbach, Patricia Frost (participating by phone), and Elizabeth Webster. Governor Colson indicated that, since Governor Rood was out of the country and Governor Frost was participating by telephone, he would chair the meeting. A quorum was established.

Governor Colson provided a brief update on the Online Institute at the University of Florida. He said that the legislation creating the initiative specified the creation of an Advisory Board to give advice to the University of Florida and to make recommendations to the Board of Governors, and that Governor Rood is chairing the Advisory Board. Governor Colson said that the Advisory Board had already had several lengthy discussions with the University of Florida about its plan, and that the Advisory Board will meet again on September 16 to review the final plan before transmitting it to the Board of Governors for discussion by the Strategic Planning Committee on September 27. Governor Colson said that the Strategic Planning Committee would immediately transmit it to the Board of Governors with a recommendation for action. He indicated that the University of Florida is statutorily required to begin offering classes for this initiative in January.

2. Approval of Minutes from Committee Meetings held June 10, 2013 and June 18-19, 2013

Vice Chair Patricia Frost moved that the Committee approve the minutes of the meetings held on June 10, 2013 and on June 18-19, 2013, as presented. Mr. Lautenbach seconded the motion, and the members of the committee concurred.

3. Further Consideration of University Work Plans

Governor Colson said that, at its June 18-19, 2013 meeting, the Committee considered for approval those portions of 2013 University Work Plans associated with the 2013-2014 academic year as well as out-year portions of University Work Plans. In addition, staff had been directed to prepare a list of issues that appear to be impacting multiple institutions across the State University System. Staff was further directed to identify issues that had been raised for each institution during the course of presentations and dialogue. Governor Colson asked Vice Chancellor Ignash to make a presentation to the Committee on these topics.

Vice Chancellor Jan Ignash's presentation identified six issues that appeared to be impacting all or nearly all SUS institutions: (1) improving retention and graduation rates, (2) increasing STEM production, (3) reducing student debt, (4) attention to academic program duplication, (5) identification of unique academic programs and research foci, and (6) attention to excess hours to degree. With regard to institution-specific issues, Vice Chancellor Ignash indicated that these had been provided in the Committee's packet of materials.

4. Strategic Plan Alignment

Governor Colson indicated that the Board's annual reporting structure, its annual University Work Plans, and its 2012-2025 Strategic Plan are known collectively as the "Three Great Books," and that, from the outset, these documents were conceived of as "living documents" that, from time to time, would require revisiting, in particular, periodic review of the State University System's progress on the Strategic Plan goals in order to determine whether the goals remain achievable. Governor Colson asked Vice Chancellor Ignash to provide the Board with an overview of the components of the Strategic Plan Alignment.

Vice Chancellor Ignash began by reviewing the interworking of the Board's "Three Great Books" and the extent to which they guide oversight and accountability. She reiterated that, from time to time, the Board would need to revisit these tools for purposes of alignment one with another, as well as to ensure that university strategic plans were aligned with the Board's goals. Dr. Ignash noted that a key component of Strategic Plan Alignment would be updating the Board's Programs of Strategic Emphasis. She noted the methodology used to establish and further update the Programs of Strategic Emphasis, and indicated that she expected to bring a revised list forward for approval in November 2013.

Dr. Ignash next presented a table of key metrics contained in the Board's Strategic Plan. The table contained 2025 Strategic Plan goals for each of the metrics, 2020 targets indicating where the System would have to be in 2020 on each metric in order to be on a trajectory to meet the 2025 goals, 2020 projections based on University Work Plan goals for each metric, and an indication of a gap or absence of a gap based on university projections. Based on this information it was possible to ascertain that some measures would likely be met or nearly so, while it appeared that others, such as STEM graduate degree production and total research and development expenditures would not be met. Governor Colson noted that STEM graduate production and research and development expenditures would be the most difficult goals to achieve due to resources.

With regard to the goal for baccalaureate degree production, Governor Tripp queried as to whether the Florida College System had been taken into account, and Vice Chancellor Ignash said that staff's projection was for the State University System only. There followed a substantial discussion among Board members and university presidents regarding the role of the Florida College System, program duplication, and the extent to which the notification of intent process stipulated in legislation is providing for the most timely and meaningful dialogue between State University System institutions and institutions of the Florida College System.

5. Request to Close Florida Atlantic University Treasure Coast Campus

Governor indicated that Florida Atlantic University (FAU) was requesting to close its Treasure Coast Campus in Port St. Lucie due to declining state support and increased competition for a limited pool of students in the area. He noted that state funding per student has declined over the past several years and that Indian River State College has continued to expand its baccalaureate program offerings at the Treasure Coast Campus location, offering a lower cost option for many degree programs that FAU had been offering.

Governor Colson noted that the FAU Board of Trustees determined in June 2012 that the programs offered at the Treasure Coast Campus could be more efficiently and effectively delivered at the Harbor Branch Oceanographic Institute in Ft. Pierce, the Jupiter campus, the main campus in Boca Raton, or by offering the programs online. The relocation of the academic programs and the teach-out plan for existing students was approved by the Southern Association of Colleges and Schools on March 28, 2013. In the 2013-2014 General Appropriations Act, the Florida Legislature passed the transfer of the Port St. Lucie facilities from FAU to Indian River State College and Governor Scott signed it into law on May 20, 2013. At its June 11, 2013 meeting the FAU Board of Trustees approved the transfer of the Port St. Lucie property to Indian River State College.

A motion was made by Mr. Lautenbach to approved Florida Atlantic University's request to close its Treasure Coast Campus. The motion was seconded by Ms. Frost, and the motion passed unanimously.

6. Adjournment and Closing Comments

Having no further business, the meeting was adjourned at 12:27 p.m.

Governor Patricia Frost
Vice Chair

Dr. R.E. LeMon
Associate Vice Chancellor

MINUTES
STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
STRATEGIC PLANNING COMMITTEE
CONFERENCE CALL
SEPTEMBER 27, 2013

*Video or audio archives of the meetings of the Board of Governors
and its Committees are accessible at <http://www.flbog.edu/>.*

1. Call to Order and Opening Remarks

Chair John D. Rood convened the meeting of the Strategic Planning Committee by telephone conference call from Tallahassee at 10:02 a.m. on September 27, 2013, with the following members present and answering roll call: Vice Chair Patricia Frost, Dr. Manoj Chopra, Dean Colson, and Ed Morton. A quorum was established. Committee member Elizabeth Webster joined the call at 10:09 a.m., and committee member Ned Lautenbach joined the call at 10:19 a.m. Other Board members in attendance were Dick Beard, Carlo Fassi, Mori Hosseini, Tom Kuntz, Alan Levine, Wendy Link, and Norman Tripp.

Chair Rood made opening remarks. He began by giving special thanks to the Legislature and Governor Scott for their support of this initiative, and, in particular, Speaker Weatherford and his staff for embracing online learning and looking at different ways to make this initiative a real game-changer. He also thanked members of the Advisory Board: Carlos Alfonso, Ernie Friend, and Dr. John Watret, indicating that the plan is much better due to their involvement.

Chair Rood indicated that the UF Online business plan was innovative, had high standards, and focused on affordability and accessibility. He said that the University of Florida looked at best practices throughout the country and really worked at making this a transformational approach to how high quality online education is provided. Throughout the process, the Advisory Board encouraged UF to look for opportunities for public-private partnerships to look for the best, most-experienced groups in the field to ensure success with this initiative.

On September 16, 2013 the Advisory Board recommended the Board of Governors approve the plan as submitted. Today, the Strategic Planning Committee will take the Advisory Board's recommendation into consideration, discuss the plan, and make a recommendation to the Board of Governors. He announced that the Board would meet immediately after the Strategic Planning Committee adjourns.

Governor Rood thanked the UF team, indicating it was amazing what the university had been able to do in a short time.

2. Comprehensive Business Plan for UF Online

Provost Joe Glover thanked the Board of Governors, the Legislature, and the Governor for their confidence in UF to develop the first completely online baccalaureate degrees in the United States. He also thanked the UF staff and the Advisory Board.

He said that UF is looking forward to the opportunity to offer access to state-of-the-art, fully online baccalaureate programs. Tuition for Florida residents will be 75% of regular resident tuition. Dr. Glover mentioned that UF had hired Betty Phillips, provost at Arizona State University, as Executive Director of UF Online. She has tremendous experience in developing the online program at Arizona State and will begin at UF in January.

Dr. Glover indicated that in 10 years, UF's aspirational goal for UF Online is to enroll 24,000 students, generating 310,000 student credit hours and approximately \$76 million in revenue. UF believes this is an achievable goal. Dr. Glover mentioned that UF generated about \$75 million last year in online revenue for professional and graduate programs that are already online. He emphasized that UF is fully committed to maintaining the quality of its educational programs and will not compromise on the rigor of its baccalaureate degree programs. He stated that UF Online students will receive the same diploma upon graduation as residential students. Consequently, UF will continue to accept only those students who can accomplish and fully benefit from these degree programs. He asked that Associate Provost Andy McCollough provide additional details about the business plan that the Advisory Board has reviewed and approved.

Dr. McCollough reiterated appreciation for the assistance of the Advisory Board in fully developing this business plan, which he believes is consistent with legislative intent as well as compatible with a Research I university.

He indicated that the student population will be First Time in College, Transfer, in-state, and out-of-state students. They will meet the same standards as residential students. He said that UF is obtaining the services of national marketing firms and will be talking to student enrollees in the state, region, country, and internationally. Dr. McCollough stated that UF has already organized its enrollment management processes and has in place a contact center, which will be a dedicated hub of online student information so that all applicants will go to a single place for admissions, registration, and financial aid information on a personalized basis.

Dr. McCollough said that UF faculty will have full content responsibility for the curriculum, both in terms of the origin and delivery of the curriculum and of the oversight of the quality of that curriculum. For January 2014, the five programs mentioned in the business plan will be ready for delivery. Since the plan went into print, UF has been able to accelerate two other programs – psychology and biology - to also be offered online in January. The curriculum to be delivered online over the next several years will be responsive to workforce needs and/or student demand. The plan is to increase the number of programs by five each year for the next six or seven years.

UF Online will have 42 courses available in January when it opens for business. The major challenge will be how to deal with courses that have an emphasis on face-to-face instruction, such as in labs. Dr. McCollough said that UF has a solution for in-state students, who will be able to use labs in IFAS locations throughout the state, as well as access to a summer lab-intensive term on campus, and the university will find appropriate solutions for lab needs for out-of-state and international students.

He indicated that the educational experience of a student is not only what takes place in the classroom, but also what takes place in “co-curricular activities.” The Division of Student Affairs has developed ideas for online co-curricular activities, such as creating an expansive online orientation, as well as sections on career resources, health, wellness, and recreation. UF Online will be emphasizing student engagement. Dr. McCollough stated that it has been proven that success for the online students is, at least in part, determined by the extent to which they feel engaged.

He said that the standards for academic integrity will be the same as those for residential students. There are entrepreneurial firms that provide various approaches that help overcome the challenges inherent in teaching from a distance.

He indicated that tuition charged in-state students will be 75% of the tuition charged for residential students, while tuition charged to out-of-state students will be market rate, set by reviewing tuition charged by peer institutions.

Dr. McCollough stated that revenues are projected to be \$76 million in the tenth year, with a net margin of over \$14 million and a cumulative fund balance of \$43 million.

He said that UF will emphasize program and student evaluation. UF has access to analytics through the course management system and is enrolled in Quality Matters, an evaluative system that is national in scope. UF is also setting up a requirement for three-year review and refreshment of each course. Every student will review every course each term for curriculum and the efficacy of the platform itself. The university will not maintain curriculum for which there is no demand by students or the workforce.

Dr. McCollough said that the university will be establishing a research center, dedicated to discovery and application, to look for new and better ways to deliver online learning and new and better understandings of the process of learning and teaching online. It is the intent to establish best practices and, as articulated to the Task Force for Postsecondary Online Education, to share all of these outputs and result of this research with partner universities and colleges throughout the state. He stated that the university has suggested to the task force the creation of a research advisory board populated by these partner institutions.

He mentioned that UF is close to signing a contract with a private partner that is one of the most important providers of educational services in the world.

Governor Beard asked how many employees will be dedicated to UF Online when the projected enrollment reaches 24,000. Dr. McCollough estimated a dedicated staff of 250, including faculty, teaching assistants, administrative personnel, enrollment management staff, and evaluative personnel engaged in quality assurance. He said that resources already available on campus will be leveraged, and support staff and faculty will need to be added to support an additional 24,000 students. Governor Beard indicated that some type of facilities will be needed to house an additional 250 employees at UF. He said that the Board is trying to determine the impact that online learning will have on facilities throughout the system, because all universities have online capabilities and will be growing that capability over the years. He requested that UF get a handle on how efficient online learning is for facilities, so the Board can be prepared to fund them over the next ten years and, second, so the Board can determine what will be required systemwide. Dr. McCollough indicated that seeking efficiencies in facilities usage is on-target for UF, and the university would be glad to share its findings.

Governor Kuntz asked about the cost of delivery to the projected online students versus the cost of delivery to a residential student. Dr. McCollough indicated that, generally, the cost of online programs is more in the beginning than residential programs, but savings or efficiencies are reached when online education reaches scale. It will be necessary to engage in appropriate marketing and strategies that will help reach scale. He said that, while there will be efficiencies, UF will need to maintain the excellence of the educational experience. Governor Kuntz indicated that it may be helpful to model how this approach would save money; if the university could show savings, it would more likely to get support from the Legislature. Provost Glover pointed out that there are huge savings for students who stay at home, both in tuition and in living at home. Governor Kuntz suggested showing both the cost to the student and the cost to the institution. Chair Rood mentioned that there is the cost of the production and delivery of materials, and there is a big savings in not having to build classrooms. He said that those savings should be included in the analysis.

Governor Tripp asked if the Advisory Board would continue to exist. He asked if the Board had a process in place for an independent evaluation to ensure that UF Online is going in the right direction, as far as the system is concerned. Chair Rood responded that the independent Advisory Board will continue, and the Strategic Planning Committee will continue to be engaged, as well. He said that there are still a lot of questions, a lot of numbers will continue to change, and there will be a lot of revisions to the plan. He indicated that it would be appropriate to discuss bringing an independent group in when there is hard data available in a few months.

Governor Alan Levine suggested that the Board discuss at a future meeting potentially advocating on a national level separating the metrics for online programs from those of residential programs. Any university that gets heavily involved in online education takes a risk and will get penalized in rankings because metrics for online programs are different from metrics for residential programs. At this point, though, all metrics are combined.

Governor Morton had a number of concerns, which he said were not relevant to the very good start of the business plan:

- (1) The elasticity of the UF brand tested against some of the better universities in the United States that have begun this type of initiative.
 - This financial feasibility study is predicated on disproportionate numbers of out of state students and the significant tuition charged to them.
- (2) The vulnerability of etextbooks, which is also built into the feasibility study.
 - The ability to share textbooks will be a challenge going forward.
- (3) The integration of online courses offered by other universities into our online menu.
 - There is an op ed piece in Washington Journal today that has to do with 170 medical schools sharing digital content so that cost can be reduced significantly.
- (4) The cannibalization of students going to UF, at least potentially.
- (5) He hopes the savings from these kinds of programs would reduce the overall cost of education so we can figure out how to spend the surplus.

- (6) He did not see metrics that were parallel to the Board of Governors and asked if UF were going to track metrics on job probability or employment probability, average starting salary, or the cost of the program?
- (7) UF needs to be sensitive to the challenges of picking programs going into initial course offerings. He has read about the difficulty of employment for students who have only undergraduate degrees in psychology and biology. The university should not lose focus on the fact that the purpose behind this initiative is to match the provision of educational programs with the needs of the workforce.

Dr. McCollough indicated that in the appendix of the UF business plan, performance metric #11 focuses on employment and wages earned. He agrees that if part of the rationale for offering a major is workforce need, UF needs to develop related performance measures and benchmarks. The university will continue working with the Advisory Board to perfect measures and benchmarks. In response to the question of offering biology and psychology, Dr. McCollough stated that UF turned to these two majors because they are in high demand on campus by students. Part of the reason is because the majors are responsive to needs in the health professions.

Chancellor Brogan stated that the Board had two parts to the original motion that led to all of this work. One part resulted in the creation of the UF Online initiative and UF's commitment to create a research and development arm for online education. The other part of that motion was the creation of the Task Force on Postsecondary Online Education in Florida, which is actively working to determine ways in which online educational opportunities, including back-of-the-house services, can be better coordinated to ensure access, affordability and quality.

Governor Frost moved to approve the comprehensive business plan for UF Online. Governor Lautenbach seconded the motion. The motion carried unanimously.

3. Concluding Remarks and Adjournment

Having no further business, the meeting was adjourned at 10:58 a.m.

Patricia Frost, Vice Chair

Dr. Nancy C. McKee
Associate Vice Chancellor

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: State University System of Florida Educational Sites Inventory Database

PROPOSED COMMITTEE ACTION

For information

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution

BACKGROUND INFORMATION

In November 2011, the Board of Governors amended Regulation 8.009, Educational Sites to update the site typology and processes for creating, terminating, and reclassifying educational sites. Board staff was then directed to create an updated inventory of existing educational sites for the purpose of grandfathering pre-existing sites and to serve as a starting point from which to manage educational sites in the future. Regulation 8.009 can be accessed online at <http://flbog.edu/about/regulations/regulations.php>.

Working with university contacts, a draft inventory has been compiled that identifies all existing Type I, II, and III Additional Campuses, and all Special Purpose Centers as defined in the regulation. These are the pre-existing sites that fall within the categories requiring Board of Governors authorization. A comprehensive educational site inventory (database) is being developed that will include these sites and Instructional Sites and Special Purpose Sites which require only university level approval. Sites that require Board of Governors approval will be entered into the inventory database by board staff and the universities will disaggregate and upload information for those that only require university approval. Each will be assigned a unique site code in the database. This database will be linked to other databases that collect information on instruction, students, faculty, facilities, etc.

Supporting Documentation Included: Educational Site Inventory List

Facilitators/Presenters: Jan Ignash

**BOARD OF GOVERNORS
EDUCATIONAL SITES REQUIRING BOARD APPROVAL**

Pursuant to Board Reg. 8.009

(All Existing Sites)

DRAFT

Additional Campus Locations

Type I Campus is defined as a university operation that has obtained and continues to maintain an enrollment level of more than 2,000 FTE

Type II Campus is defined as a university operation that has obtained and continues to maintain an enrollment level of 1,000 to 2,000 FTE

Type III is defined as a university operation that has obtained and continues to maintain an enrollment level of at least 300 but less than 1,000 FTE

University	Site #	Site name	Street Address	City	County	Site Type per 8.009	FTE
USF	0004	ST.PETERSBURG	140 SEVENTH AVE S.	ST. PETERSBURG	PINE	Type I	2,335
FIU	0002	BISCAYNE BAY	3000 NE 151ST STREET	NORTH MIAMI	DADE	Type I	2,834
FAU	0009/0010	FAU DAVIE	3233 COLLEGE AVENUE	DAVIE	BROW	Type II	1,495
UCF	0015	ROSEN COL HOSPI	9907 UNIVERSAL BLVD	ORLANDO	ORAN	Type II	1,545
FAMU	0011	CRESTVIEW	153 WOODRUFF AVENUE	CRESTVIEW	OKAL	Type III	17
FAMU	0002	INNOVATION PARK	2525 POTSDAMER ST	TALLAHASSEE	LEON	Type III	76
FAMU	0010	LAW SCHOOL	201 BEGGS AVE	ORLANDO	ORAN	Type III	599
FAU	0005	FAU FT LAUD DTN	111 EAST LAS OLAS BLVD.	FORT LAUDERDALE	BROW	Type III	345
FAU	0008	FAU JUPITER	5353 PARKSIDE DRIVE	JUPITER, FL.	PALM	Type III	623
FIU	0004	THE PINES CTR	17195 SHERIDAN ST	FORT LAUDERDALE	BROW	Type III	412
FSU	0010	P. C. CAMPUS	4750 COLLEGIATE DR.	PANAMA CITY	BAY	Type III	619
FSU	0030	REP.OF PANAMA	CITY OF KNOWLEDGE	PANAMA CITY	NOT IN US	Type III	296
FSU	0018	SW CAMPUS	DIRAC DRIVE & LEVY A	TALLAHASSEE	LEON	Type III	565
UCF	0003	UCF COCOA	1519 CLEARLAKE RD.	COCOA	BREV	Type III	362
UCF	0006	UCF DAYTONA BEACH	1200 W. INTL SPDWY BLVD	DAYTONA BCH	VOLU	Type III	294
UCF	0013	UCF PALM BAY	250 COMMUNITY COLLEGE PKWY, BLDG.3	PALM BAY	BREV	Type III	168
UCF	0016	HEALTH SCIENCE CAMPUS AT LAKE NONA	EAST CAMPUS DR.	LAKE NONA	ORAN	Type III	179
UCF	0018	UCF SANFORD/LAKE MARY	100 WELDON BLVD.	SANFORD	SEMI	Type III	203
UCF	0019	UCF SOUTH LAKE	1250 N HANCOCK RD.	CLERMONT	SUMT	Type III	150
UCF	0020	UCF OCALA	3001 S.W. COLLEGE RD.	OCALA	MARI	Type III	78
UCF	0023	UCF VALENCIA OSCEOLA	1800 DENN JOHN LN,BLDG 3,STE 319	KISSIMMEE	OSCEOLA	Type III	104
UCF	0024	UCF VALENCIA WEST	1800 S KIRKMAN RD,BLDG 11,STE 104	ORLANDO	ORAN	Type III	408
UCF	0025	UCF LEESBURG	9501 U.S. HIGHWAY 441	LEESBURG	LAKE	Type III	33
USF	0003	SARASOTA	8350 N. TAMiami TR.	SARASOTA	MANA	Type III	703
UWF	0008	NRTWST FL ST CO	1170 MARTIN LUTHER K	FORT WALTON	OKAL	Type III	84

Special Purpose Centers

A Special Purpose Center is a unit of a university, apart from the the main campus, that provides certain special, clearly defined programs or services such as research or public service, and reflects a relatively permanent commitment by a university for the foreseeable future, not an occasional, time-limited, or transitory activity, in facilities which are university-owned, university-leased, or jointly used with another public institution.

University	Site #	Site name	Street Address	City	County	Site Type per 8.009	FTE
FAMU	0005	FAMU VINEYARDS	6505 MAHAN DRIVE	TALLAHASSEE	LEON	Special Purpose Center	-
FAMU	0006	CHALLENGER LEARNING CENTER	200 S. DUVAL ST.	TALLAHASSEE	LEON	Special Purpose Center	-
FAU	0004	PINE JOG CENTER	6301 SUMMIT BLVD.	WEST PALM BEACH	PALM	Special Purpose Center	7
FAU	0007	FAU DANIA BCH	101 N. BEACH RD.	DANIA	BROW	Special Purpose Center	34
FAU	0014	GUMBO LIMBO	1801 N. OCEAN AVE	BOCA RATON	PALM	Special Purpose Center	-
FAU	0016	FAU AT WESTGATE	2542 HIAWATHA AVE	WEST PALM BEACH	PALM	Special Purpose Center	-
FAU	0018	FAU HARBOR BRAN	5600 US 1 NORTH	FORT PIERCE	ST L	Special Purpose Center	15
FGCU	0002	HARVEY KAPNICK	4940 BAYSHORE DRIVE	NAPLES	COLL	Special Purpose Center	252
FGCU	0004	VESTER MARINE S	5164 BONITA BEACH RO	BONITA SPRINGS	LEE	Special Purpose Center	-
FGCU	0006	GULF COAST CENT	5820 BUCKINGHAM ROAD	FORT MYERS	LEE	Special Purpose Center	-
FIU	0006	FIU WOLFSONIAN	1001 WASHINGTON AVE	MIAMI BEACH	DADE	Special Purpose Center	1
FIU	0017	JEWISH MUSEUM	301 WASHINGTON AVE	MIAMI BEACH	DADE	Special Purpose Center	-
FSU	0002	FSU MARINE LAB	3618 COASTAL HIGHWAY	ST. TERESA	FRAN	Special Purpose Center	-
FSU	0005	MISSION RD.STA	2606 MISSION ROAD	TALLAHASSEE	LEON	Special Purpose Center	-
FSU	0007	RESERVATION	3226 FLASTACOWA RD	TALLAHASSEE	LEON	Special Purpose Center	-
FSU	0009	RINGLING CTR.	BAY SHORE & TAMiami	SARASOTA	SARA	Special Purpose Center	23
FSU	0026	COLLIER COUNTY	1441 HERITAGE BOULEV	IMMOKALEE	COLL	Special Purpose Center	-
FSU	0036	LONDON CENTER	GREAT RUSSELL STREET	LONDON	NOT IN US	Special Purpose Center	92
FSU	0035	FLORENCE CENTER	BORGIO SS. APOSTOLI	FLORENCE, ITALY	NOT IN US	Special Purpose Center	43
FSU	0037	VALENCIA CENTER	2 Calle Blanqueras	VALENCIA, SPAIN	NOT IN US	Special Purpose Center	87
UCF	0002	UCF SO ORLANDO	7300 LK ELLENOR DR	ORLANDO	ORAN	Special Purpose Center	41
UCF	0007	FLA SOLAR EN #1	700 SNAPPER RD.	PORT CANAV	BREV	Special Purpose Center	-
UCF	0008	FLA SOLAR EN #2	800 GREENSBORO RD	COCOA	BREV	Special Purpose Center	-
UCF	0010	FLA SOLAR EN #3	CLEARLAKE RD.	COCOA	BREV	Special Purpose Center	-
UCF	0011	EXECUTIVE DEVELOPMENT CTR	36 W. PINE ST.	ORLANDO	ORAN	Special Purpose Center	84
UCF	0017	CENTER FOR EMERGING MEDIA	500 WEST LIVINGSTON	ORLANDO	ORAN	Special Purpose Center	114
UF	0005	TREEO CENTER	3900 SW 63RD BLVD	GAINESVILLE	ALAC	Special Purpose Center	-
UF	0106	BEEF TEACHING U	3301 SW 23RD TERRACE	GAINESVILLE	ALAC	Special Purpose Center	-
UF	0107	AUSTIN CARY MEM	10625 NE WALDO ROAD	GAINESVILLE	ALAC	Special Purpose Center	-
UF	0108	BEEF UNIT MONTE	9800 N CR 225	GAINESVILLE	ALAC	Special Purpose Center	-
UF	0109	DAIRY UNIT/AGRO	CR-237	HAGUE	ALAC	Special Purpose Center	-
UF	0112	FISHERIES & AQU	7922 NW 71ST STREET	GAINESVILLE	ALAC	Special Purpose Center	2
UF	0116	ECHELON PARK	US 441 NORTH	ALACHUA	ALAC	Special Purpose Center	-
UF	0601	FT LAUDERDALE R	3205 COLLEGE AVENUE	FT. LAUDERDALE	BROW	Special Purpose Center	10
UF	1101	SOUTHWEST FLORI	2685 HIGHWAY 29 N	IMMOKALEE	COLL	Special Purpose Center	3
UF	1304	TROPICAL REC HO	18905 SW 280 STREET	HOMESTEAD	DADE	Special Purpose Center	5
UF	2001	NORTH FLORIDA R	155 RESEARCH ROAD	QUINCY	GADS	Special Purpose Center	-
UF	2501	RANGE CATTLE RE	3401 EXPERIMENT STAT	ONA	HARD	Special Purpose Center	1

Board of Governors Committees and Meeting - Strategic Planning Committee

UF	2903	TROPICAL AQUACU	1408 24TH STREET SE	RUSKIN	HILL	Special Purpose Center	-
UF	2904	GULF COAST REC	14625 COUNTY ROAD 67	WIMAUMA	HILL	Special Purpose Center	7
UF	2905	UF/IFAS PLANT C	1200 NORTH PARK ROAD	PLANT CITY	HILL	Special Purpose Center	14
UF	3101	FL MEDICAL ENTO	200 9TH STREET SE	VERO BEACH	INDI	Special Purpose Center	-
UF	3201	NORTH FLORIDA R	3925 HWY 71	MARIANNA	JACK	Special Purpose Center	-
UF	3801	OBSERVATORY	4551 NE 110 AV	BRONSON	LEVY	Special Purpose Center	-
UF	3802	SEAHORSE KEY MA	SEAHORSE KEY	CEDAR KEY	LEVY	Special Purpose Center	-
UF	4001	4H CAMP CHERRY	3861 NE CHERRY LAKE	MADISON	MADI	Special Purpose Center	-
UF	4201	EQUINE SCIENCES	2655 NW 100TH ST	OCALA	MARI	Special Purpose Center	-
UF	4202	PLANT SCIENCE R	2556 W HIGHWAY 318	CITRA	MARI	Special Purpose Center	-
UF	4601	GRADUATE ENG &	1350 N POQUITO RD	SHALIMAR	OKAL	Special Purpose Center	18
UF	4602	4H CAMP TIMPOOC	4750 TIMPOOCHEE LANE	NICEVILLE	OKAL	Special Purpose Center	-
UF	4801	MID FLORIDA REC	2725 BINION ROAD	APOPKA	ORAN	Special Purpose Center	3
UF	5001	EVERGLADES REC	3200 EAST PALM BEACH	BELLE GLADE	PALM	Special Purpose Center	1
UF	5301	CITRUS REC LAKE	700 EXPERIMENT STATI	LAKE ALFRED	POLK	Special Purpose Center	10
UF	5402	ORDWAY MELROSE	ORDWAY/SWISHER BIOLO	MELROSE	PUTN	Special Purpose Center	-
UF	5501	HASTINGS REC	595 E ST JOHNS AVENU	HASTINGS	ST J	Special Purpose Center	-
UF	5601	INDIAN RIVER RE	2199 SOUTH ROCK ROAD	FT. PIERCE	ST L	Special Purpose Center	9
UF	5701	WEST FLORIDA RE	4253 EXPERIMENT ROAD	JAY	SANT	Special Purpose Center	3
UF	6101	NORTH FLORIDA R	7580 COUNTY ROAD 136	LIVE OAK	SUWA	Special Purpose Center	-
UF	6201	BKI BIOREFINERY	1 BUCKEYE DRIVE	PERRY	TAYL	Special Purpose Center	-
UF	111	HORSE TEACHING	1934 SW 63RD AVENUE	GAINESVILLE	ALAC	Special Purpose Center	3
UF	120	BOSTON FARM/SAN	14202 NW 294TH AVE	ALACHUA	ALAC	Special Purpose Center	-
UF	1001	CAMP BLANDING	SR-230	STARKE	CLAY	Special Purpose Center	-
UF	1501	OBSERVATORY	CR-349	OLD TOWN	DIXI	Special Purpose Center	-
UF	1602	UF-HSC JACKSONVILLE	655 W. 8TH ST	JACKSONVILLE	DUVA	Special Purpose Center	256
UF	1801	WHITNEY LABORAT	9505 OCEANSHORE BLVD	ST. AUGUSTINE	FLAG	Special Purpose Center	1
UNF	0002	MOCA	333 NORTH LAURA STREET	JACKSONVILLE	DUVA	Special Purpose Center	5
USF	0045	CHINSEGUT	RT 2, BOX 216	BROOKSVILLE	HERN	Special Purpose Center	-
UWF	0006	ARCADIA MILL	5709 MILL POND LANE	MILTON,FL	SANT	Special Purpose Center	-
UWF	0007	HIST. PENSACOLA	120 EAST CHURCH STRE	PENSACOLA	ESCA	Special Purpose Center	1
FPU	0047	F. I. P. R. I.	1855 WEST MAIN ST	BARTOW	POLK	Special Purpose Center	-

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Further Consideration of Strategic Plan Alignment

PROPOSED COMMITTEE ACTION

For discussion

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution

BACKGROUND INFORMATION

The Committee's September 2013 meeting began a dialogue with regard to Strategic Plan Alignment, one component of which was to review key metrics to determine the likelihood of whether Strategic Plan goals would be met on those particular metrics. Staff calculated projections on key measures, compared them with targets, and determined the gap or absence of a gap between where the State University System would have to be in order to be "on pace" to reach Strategic Plan year 2025 goals.

Of the eleven metrics under consideration, it was determined that four were sufficiently below their targets to warrant further discussion relative to whether the 2025 goals should be maintained or lowered. These were:

- Baccalaureate degree production
- Total R&D expenditures
- Graduate degree production
- STEM graduate degree production

Staff has made year 2025 projections based on historical data and is prepared to make recommendations with regard to whether year 2025 goals should be maintained or lowered.

Supporting documentation included: Staff Recommendations

Facilitators/Presenters: Governor Patricia Frost, Jan Ignash

2025 Strategic Plan Goals: Options for Target Gaps

2012-2025 Strategic Plan Metric	2025 Strategic Plan Goal	2025 Historical Projection	2025 Gap
Baccalaureate Degree Production	90,000	82,770	-8%
Total R&D Expenditures	\$3.25B	\$2.8B	-14%
Graduate Degree Production	40,000	31,880	-20%
STEM Graduate Production	14,000	7,840	-44%

Baccalaureate Degree Production (-8% year 2025 target gap)

Option One: Maintain the 90,000 goal for baccalaureate degree production in year 2025.

Option Two: Lower the 90,000 goal for annual baccalaureate degree production in year 2025.

Staff Recommendation: Further consideration should be given to Option One--maintaining the 90,000 goal for baccalaureate degree production in year 2025. Staff's rationale for this recommendation is as follows:

Based on historical growth trends, the State University System is projected to produce about 83,000 degrees annually by 2025. The difference between the historical growth trend and the 2025 goal is a modest 7,000 degrees. The 2025 Strategic Plan goal of 90,000 baccalaureates was predicated on attaining a 70% six-year graduation rate, and the State University System is currently on target to meet that rate by the year 2025. The universities continue to demonstrate gained efficiencies in degree production each year. Performance-based funding's focus on academic progress and graduation will also have a positive impact on degree production. In addition, the State University System has increased enrollments 12% between 2006-2011. If this trend continues, it will translate into more degrees. Florida Polytechnic University should be producing degrees by 2020, and UF's Florida Online should also have an impact by 2025. Indications are that several branch campuses and regional institutions will increase enrollments and, therefore, degree production. Taking these factors together, it is possible that the State University System will meet its year 2025 productivity goal of 90,000 baccalaureates. Staff recommends that the gap is not significant enough to warrant reducing the goal at this time.

Total R&D Expenditures (-14% year 2025 target gap)

Option One: Maintain the 2025 total R&D expenditures goal at \$3.25B

Option Two: Lower the 2025 total R&D expenditures goal from \$3.25B

Staff Recommendation: Staff recommends further consideration of Option Two – lowering the 2025 total R&D expenditures goal from \$3.25B. Staff’s rationale for this recommendation is as follows:

At the time when 2012-2025 Strategic Plan goals were being established, \$1.68B in research and development expenditures was reported by the universities. This means that the system Strategic Plan goal for 2025 (\$3.25B) was to nearly double R&D expenditures by the year 2025, an average change of \$100M yearly through the life of the Strategic Plan. This goal may have been too aggressive to begin with. Adding to the challenge of increasing research expenditures at the pace necessary to meet the 2025 goal have been the long-term effects of the Great Recession and the effects of federal sequestration which the System is only beginning to feel. The 2025 goal can be maintained, but it is unlikely that it will be met. Consequently, staff recommends the second option – adjusting the 2025 goal downward based on historical trends in SUS federal and private R&D dollars. At annual growth rates of \$100M, \$75M, and \$50M the 2025 projections would be \$3.07B, \$2.75B, and \$2.42B, respectively. Based on past performance and the current fiscal climate, staff recommends the \$2.75B goal with the understanding that this goal should be revisited if the current fiscal climate continues.

Graduate Degree Production (-20% year 2025 target gap)

Option One: Maintain the 40,000 goal for annual graduate degree production in year 2025.

Option Two: Maintain the 40,000 goal for annual graduate degree production in year 2025, but estimate additional costs needed to “lift up” degree production.

Option Three: Lower the 40,000 goal for annual graduate degree production in year 2025.

Staff Recommendation: Staff recommends further consideration of Option Two-- maintaining the 40,000 goal for annual graduate degree production in year 2025, but estimating additional costs needed to “lift up” degree production. Staff’s rationale for this recommendation is as follows:

Although graduate STEM degree production will be addressed more fully in the next recommendation, to some extent graduate degree production and STEM graduate degree production need to be considered at the same time here. Based on projections

from historical data, graduate degree production, including STEM degree production, will be about 8,000 degrees short of the 2025 Strategic Plan goal. Based on that same historical data, STEM degree production will be about 6,000 degrees short of the 2025 Strategic Plan goal. Therefore, the System will be about 2,000 degrees short of non-STEM degrees by the year 2025.

Using the SUS Expenditure Analysis staff has calculated the average cost of a non-STEM graduate (master's and specialist level) degree to be \$19,459 (\$486.48 per credit hour X an average 40 credit hours). This dollar figure, multiplied by the projected gap in non-STEM graduate degree production (a gap of 2,000: 8,000 total gap less the 6,000 STEM degree gap), provides an approximation of the dollars needed to reach the 2025 goal of graduate degree production less STEM degrees. Staff estimates that an additional \$39M would be needed to reach the 2025 goal in graduate degree production less STEM. Spread over the remaining life of the 2012-2025 Strategic Plan, this would constitute a yearly investment of approximately \$3.25M.

STEM Graduate Degree Production (-44% year 2025 target gap)

Option One: Maintain the 14,000 goal for annual STEM graduate degree production in year 2025.

Option Two: Maintain the 2025 STEM graduate degree production goal at 14,000, but estimate additional costs needed to "lift up" production.

Option Three: Lower the 2025 STEM graduate degree production goal.

Staff Recommendation: Staff recommends further consideration of Option Two — maintaining the 2025 STEM graduate production goal at 14,000, but estimating additional costs needed to "lift up" production. Staff's rationale for this recommendation is as follows:

STEM production in graduate education, especially in specific workforce areas, is critical in order for Florida to realize a 21st Century economy. While the 2020 target gap is significant at -44%, staff recommend that the 2025 goal should be maintained and, rather, that this gap should be quantified in terms of the number of additional dollars it would require to reach this goal. To that end, using the SUS Expenditure Analysis staff has calculated the cost of a STEM graduate (master's level) degree to be \$25,547 (\$638.67 per credit hour X an average 40 credit hours). This dollar figure, multiplied by the projected gap in STEM degree production (a gap of about 6,000), provides an approximation of the dollars needed to reach the 2025 goal. Staff estimates that an additional \$153M would be needed to reach the 2025 goal in STEM degree production. Spread over the remaining life of the 2012-2025 Strategic Plan, this would constitute a yearly investment of approximately \$12.75M.

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Programs of Strategic Emphasis Update

PROPOSED COMMITTEE ACTION

Approval of the updated categories and program list for Programs of Strategic Emphasis to be included by reference in the State University System Strategic Plan.

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution

BACKGROUND INFORMATION

As part of the Strategic Plan Alignment project, the Board of Governors' staff was directed to update the categories and list of academic programs of strategic emphasis. Following a similar methodology with the one used in 2008, staff reviewed reports and data produced by the key economic and workforce development organizations in the state and also reviewed related national reports. Based upon these sources, the categories associated with the programs of strategic emphasis have been updated and degree programs offered by the state universities have been reclassified in alignment with the new categories.

Provided for review are the methodology that was used for updating the Programs of Strategic Emphasis and a copy of the current State University System (SUS) Academic Program Inventory with the programs assigned to the updated categories.

If approved, the updated Programs of Strategic Emphasis will go into effect for the 2014-2015 academic year.

Supporting Documentation Included: Methodology for Updating Programs of Strategic Emphasis

Facilitators/Presenters: R.E. LeMon

Methodology for Updating Programs of Strategic Emphasis In the State University System of Florida, Board of Governors 2012 – 2025 Strategic Plan

November, 2013

An essential component of the 2012-2025 Strategic Plan Alignment initiative is the need to update the current State University System list of Programs of Strategic Emphasis. The Programs of Strategic Emphasis exist as one of several tools for aligning the degree production goals of the State University System with the economic and workforce needs of Florida. In addition, the Programs of Strategic Emphasis are critical to update, because they are to become a component in Performance-based Funding.

As in past revisions to the Programs of Strategic Emphasis categories and list, a meta-analysis of the current reports and data of key economic and workforce councils in Florida was conducted. These “key councils” include Enterprise Florida, Inc., Workforce Florida, Inc., the Council of 100, the Florida Chamber of Commerce, and the Agency for Workforce Innovation. Other organizations whose reports and data informed this process include the Florida Hospital Association, the Florida Center for Nursing, the Florida High-Tech Corridor, the Florida Department of Education, and the U.S. Department of Labor (USDOL).

Additionally, a number of national level reports were reviewed and their recommendations were incorporated into the analysis. Some of these reports included the Federal Science, Technology, Engineering, and Mathematics Education: 5 Year Strategic Plan; Help Wanted: Projections of Jobs and Education Requirements Through 2018; Council on Foreign Relations: US Education Reform and National Security; and An Economy that Works: Job Creation and America’s Future.

The methodology used to reevaluate assumptions and forecasts that provide the framework for targeting degree programs is relatively simple.

- 1) Identify the recommendations of Florida’s leading economic and workforce councils (key councils) and national reports (Appendix B).
- 2) Merge and evaluate the areas of interest and emphasis from the key councils to determine appropriate broad program categories that are in alignment (Table 1).
- 3) Identify specific academic programs and program clusters by CIP code* that should be included in the broad program categories (Appendix A).

** CIP is the Classification of Instructional Programs code required for reporting degrees and enrollments to the National Center for Educational Statistics and used by the Board of Governors to inventory approved degree programs in the State University System (SUS). The standardized CIP code allows for comparative data to be collected and analyzed at both the state and national level.*

It became apparent that the current broad program categories should be revised and perhaps renamed to better demonstrate alignment with recommendations found in the key council reports and data. The proposed changes to the categories are shown in Table 1, and the rationale for making changes is provided for each category in Appendix A.

TABLE 1: Current and Proposed Categories:

<u>CURRENT</u>	<u>PROPOSED</u>
<ol style="list-style-type: none"> 1. Critical Needs – Education 2. Critical Needs – Health Professions 3. Economic Development – Regional Workforce Demand 4. Economic Development – Globalization 5. Science, Technology Engineering, and Math (STEM) 6. Critical Needs – Security and Emergency Services 	<ol style="list-style-type: none"> 1. Critical Workforce - Education 2. Critical Workforce - Health 3. Critical Workforce – Gap Analysis 4. Economic Development – Global Competitiveness 5. Economic Development - STEM

The academic degree programs associated with the proposed new categories are identified in Appendix A and the list of all affected CIP codes in the State University System Academic Program Inventory is provided in Appendix C. An expanded list of all available programs for those targeted at the two and four digit CIP code level can be accessed online at <http://nces.ed.gov/ipeds/cipcode/default.aspx?y=55>. It should be noted that not all of the CIP codes found in the online expanded list represent programs currently offered within the State University System. This allows for new degree programs to be appropriately categorized when they are added to the State University Academic Program Inventory.

APPENDIX A: Proposed Programs of Strategic Emphasis for the State University System of Florida, Board of Governors 2012 – 2025 Strategic Plan

A Few Words about CIPs

The Classification of Instructional Programs (CIP) provides a taxonomic scheme that supports the accurate tracking and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980, with revisions occurring periodically since that time as new programs emerged and existing program curriculums evolved.

The CIP taxonomy is organized on three levels:

1. The two-digit series, representing the most general groupings of related educational programs (e.g., 14. Engineering)
2. The four-digit series, representing intermediate groupings of educational programs that have comparable content and objectives (e.g. 14.08 Civil Engineering)
3. The six-digit series, representing specific instructional programs with very similar content and objectives (e.g., 14.0803 Structural Engineering as a subset of Civil)

Postsecondary educational institutions use six-digit CIP codes when completing the IPEDS Completions Survey required for participation in federal financial aid programs. Six-digit codes are the most detailed program classifications within the CIP and represent the basic unit of analysis used by NCES and institutions in tracking and reporting program completions and fields of study data.

Source: NCES, *Integrated Postsecondary Education Data System (IPEDS)*, online manual: <http://nces.ed.gov/ipeds/cipcode/default.aspx?v=55>

Proposed Categories for Programs of Strategic Emphasis with Associated CIP

1. Critical Workforce – Education (*title change*)

Critical Needs: Education is a category in the present version of the Strategic Plan that is largely based upon the Florida State Board of Education list of critical teacher shortage areas which is published annually. This list can change from year to year, but typically remains the same with only one or two additions/deletions. It is also important to consider the critical shortage list within the broader context of the workforce demand for teachers in all specialties, and, for this reason, all teacher education programs were included in the original targeted list associated with the SUS 2005-2013 strategic plan.

It is proposed that this category be renamed ***Critical Workforce - Education*** and that the updated program list should include all the programs related to teacher preparation and student counseling at the K-12 level. This will allow for targeting academic programs at the 4 digit CIP code level and eliminate any need for annual updates to the category due to changes in the state board list or in programmatic reorganizations at the universities.

EDUCATION CIP CODES:

- 13.01 Education, General (all)
- 13.0301 Curriculum and Instruction
- 13.10 Special Education and Teaching (all)
- 13.11 Student Counseling and Personnel Services (all)

- 13.12 Teacher Education and Professional Development, Specific Levels and Methods (all)
- 13.13 Teacher Education and Professional Development, Specific Subject Areas (all)
- 13.14 Teaching English or French as a Second or Foreign Language (all)

2. Critical Workforce - Healthcare *(title change)*

Critical Needs: Health Professions is a category in the current version of the strategic plan based primarily upon workforce projections by The Florida Hospital Association and the Florida Department of Economic Opportunity. These organizations have identified the healthcare professions that exist as critical shortage areas in Florida. In addition, a shortage of nursing faculty is frequently cited as a critical need occupation because of the direct impact on registered nurse education programs.

There are a number of health-related technology and data management programs that have emerged in recent years as high-demand and high-wage occupations. In addition, there is a growing consensus that Florida will need to expand its healthcare workforce in all related occupations as the provisions of the Affordable Care Act are implemented and the state experiences a demographic transition as the Baby Boom Generation retires.

It is proposed that this category be renamed **Critical Workforce: Healthcare** and that it should include all health related degree programs (not just healthcare practitioners) under the 51 CIP Code along with selected programs that may exist under other two-digit CIP families.

HEALTHCARE CIP CODES:

- 51 Health Professions and Related Programs (all)
- 30.1101 Gerontology

3. Critical Workforce – Gap Analysis *(title change and substantive revision)*

Economic Development: Regional Workforce Demand is a category in the current version of the strategic plan whereby universities were expected to engage sufficiently with local industries and employers to identify academic programs in high demand. If determined to be warranted, these programs would then be incorporated into a list of academic programs targeted by this category. The programs currently included in this category vary by university, and are not necessarily aligned with projected statewide workforce needs.

It is proposed that this category be replaced with **Critical Workforce – Gap Analysis** and that it include degree programs leading to the occupational categories identified as projected to be critically under-supplied in the Higher Education Access and Educational Attainment Commission's gap analysis of labor market projections and related degree production. Consequently, the academic programs included in this category will correspond to Florida's high need, high wage occupational areas identified through the gap analysis. Universities will still be expected to work with local industries and employers to identify academic programs needed to support local or regional economic development and workforce needs.

This category would only include academic programs identified in the Gap Analysis that are not included in another category of Programs of Strategic Emphasis (e.g, industrial engineering would be captured under STEM, so it is not necessary to include it under Gap Analysis).

GAP ANALYSIS CIP CODES:

- 09.0101 Speech Communication and Rhetoric.
- 09.0900 Public Relations, Advertising, and Applied Communication.
- 09.0902 Public Relations/Image Management
- 50.0409 Graphic Design
- 52.0301 Accounting
- 52.0801 Finance, General
- 52.0803 Banking and Financial Support Services
- 52.1001 Human Resources Management/Personnel Administration, General
- 52.1304 Actuarial Science
- 52.1701 Insurance
- 09.0100 Communication, General
- 50.0401 Design and Visual Communications, General
- 50.0404 Industrial and Product Design
- 52.0304 Accounting and Finance
- 52.0305 Accounting and Business/Management

4. Economic Development - Global Competitiveness (title change)

Economic Development: Globalization is a category in the current version of the strategic plan that represents more of an over-arching concept found in the various reports reviewed, rather than a specific industry or occupational area. Degree programs that assist in making the SUS globally competitive can be found throughout the system across many disciplines, especially within the sciences, engineering, and information technology programs. However, there are programs that directly support globalization through program graduates and focused research. Some of these programs have an international focus, such as international affairs, international business, international construction, international law, etc. Area studies and foreign language programs that focus on critical trade partners or foreign competitors would also fall under the broad umbrella of increasing globalization.

It is proposed that this category be renamed *Economic Development: Global Competitiveness* to more clearly define its intent and that it continue to include only programs for which a strong case has been made for enhancing Florida's global competitiveness.

GLOBAL COMPETITIVENESS CIP CODES:

- 05.0103 Asian Studies/Civilization
- 05.0105 Russian, Central European, East European and Eurasian Studies
- 05.0107 Latin American Studies

- 05.0108 Near and Middle Eastern Studies
- 05.0124 French Studies
- 05.0126 Italian Studies
- 05.0134 Latin American and Caribbean Studies
- 05.0201 African-American/Black Studies
- 13.0701 International and Comparative Education
- 16.0101 Foreign Languages and Literatures, General
- 16.0102 Linguistics
- 16.0399 East Asian Languages, Literatures, and Linguistics, Other
- 16.0400 Slavic Languages, Literatures, and Linguistics, General
- 16.0402 Russian Language and Literature
- 16.0501 German Language and Literature
- 16.0901 French Language and Literature
- 16.0902 Italian Language and Literature
- 16.0904 Portuguese Language and Literature
- 16.0905 Spanish Language and Literature
- 22.0210 International Business, Trade, and Tax Law
- 30.2001 International/Global Studies
- 45.0901 International Relations and Affairs
- 52.1101 International Business/Trade/Commerce
- 52.1502 International Real Estate - CIP assigned by BOG staff (does not exist in NCES)

5. Economic Development – STEM (title change)

Science, Technology, Engineering, and Math (STEM) is a category in the current version of the strategic plan and it is proposed that it be retained and renamed ***Economic Development – STEM*** to emphasize the importance of these programs to Florida's economy. The broad category of STEM encompasses programs associated with the six subcategories listed below.

- Mechanical science and manufacturing
- Natural science and technology
- Medical science and technology
- Computer science and technology
- Design and construction
- Electronic media and simulation

Many of the STEM academic programs can be targeted at the two-digit CIP level and others can be targeted at the four-digit level. However, there are STEM related degrees embedded in disciplines that are not generally associated with science, technology, engineering, and math. These have also been included in the list of STEM CIP codes.

STEM CIP CODES:

- 01.00 Agriculture, General (FAMU Ag Science Programs)
- 01.09 Animal Sciences
- 01.10 Food Science and Technology
- 01.11 Plant Sciences

- 01.12 Soil Sciences
- 03 Natural Resources and Conservation (all)
- 11 Computer and Information Sciences and Support Services (all)
- 14 Engineering (all)
- 15 Engineering Technologies and Engineering-Related Fields (all)
- 26 Biological and Biomedical Sciences (all)
- 27 Mathematics and Statistics (all)
- 30.01 Biological and Physical Sciences
- 30.06 Systems Science and Theory
- 30.08 Mathematics and Computer Science
- 30.10 Biopsychology
- 30.15 Science, Technology and Society
- 30.16 Accounting and Computer Science
- 30.17 Behavioral Sciences
- 30.18 Natural Sciences
- 30.19 Nutrition Sciences
- 30.25 Cognitive Science
- 30.30 Computational Science
- 30.31 Human Computer Interaction
- 30.32 Marine Sciences
- 30.33 Sustainability Studies
- 40 Physical Sciences (all)
- 04.0201 Architecture
- 04.0401 Environmental Design/ Architecture
- 04.0601 Landscape Architecture
- 09.0702 Digital Communication and Media/Multimedia
- 13.0501 Educational/Instructional Technology
- 31.0505 Kinesiology and Exercise Science
- 42.2706 Physiological Psychology/Psychobiology
- 43.0106 Forensic Science and Technology
- 43.0111 Criminalistics and Criminal Science
- 43.0116 Cyber/Computer Forensics and Counterterrorism
- 45.0702 Geographic Information Science and Cartography
- 50.0102 Digital Media
- 52.1201 Management Information Systems, General
- 52.1301 Management Science

If any SUS institution would like to add additional programs, not included in the STEM list, an argument can be made for their addition. This is most likely to happen with new and emerging disciplines at the time a new degree program is implemented.

6. Critical Needs – Security and Emergency Services (deleted)

Critical Need: Security and Emergency Services is a category in the current version of the strategic plan intended to address the needs of homeland security and disaster preparedness, which were identified in two key council reports as important emerging areas of interest. However, the current editions of these reports are no longer emphasizing a critical need in Florida for these types of programs. While they certainly remain important, it does not appear that continuing to include them as a Program of Strategic Emphasis is warranted. It is proposed that this category be eliminated and that the science and technology related programs currently in this category be included in the STEM category.

APPENDIX B: Summary of Key Council Reports and Data

State-Level Reports and Data

Enterprise Florida Industry Sectors & Roadmap to Florida Futures (2012)	eFlorida (Enterprise Florida) Qualified Targeted Industries for Incentives (2011)	Progress-Energy/Duke Energy report (No Date.)
Headquarters and Other Manufacturing Information Technology Life Sciences Financial/Professional Services Aviation and Aerospace Defense/Homeland Security Clean Tech	Biomass and biofuels processing Energy equipment manufacturing Energy storage technologies Photovoltaic Environmental Consulting Biotechnology Pharmaceuticals Medical devices	Aviation and Aerospace Clean Energy Financial and Professional Services Homeland Security and Defense Industries Information Technology Life Sciences Manufacturing
Florida Strategic Plan for Economic Development (No Date)	Laboratory and surgical instruments Diagnostic testing	
STEM Market-relevant technical skills Trade and transportation systems Telecommunications Future supply and quality of water Energy sources and systems	Modeling, simulation and training Optics and photonics Digital media Software Electronics Telecommunications Aviation	Florida High Tech Corridor Council (2013)
Department of Economic Opportunity: State of Florida Job Creation Plan (2011)	Aircraft and aircraft parts manufacturing Maintenance repair and overhaul of aircrafts Navigation instrument manufacturing Flight simulator training	Agritechnology Aviation and Aerospace Digital Media/Interactive Entertainment Financial Services Information Technology Life Sciences/Biotechnology Microelectronics/Nanotechnology Modeling, Simulation and Training Optics and Photonics Sustainable Energy
Global competitiveness Military bases Sports, film, and entertainment production	Aerospace Space vehicles and guided missile manufacturing Satellite communications Space technologies Launch operations	Florida High Tech Corridor Council 2010-2011 Annual Report
Roadmap to Florida's Future - 2010-2015 Strategic Plan for Economic Development	Equipment Optical instruments Navigation aids Ammunition Electronics	Aviation & Aerospace Information Technology Life Sciences and Medical Technologies Materials Modeling Simulation and Training Optics and Photonics Sustainable Energy
STEM Global Logistics Creative Industries Broadband Water Energy Innovation - R&D Transportation Trade and Tourism Global Commerce Nanotechnology Strategy Multidisciplinary Research	Transportation Military vehicles Shipbuilding and repair Technology Computer systems design	Florida Center for Nursing: RN and LPN Supply and Demand Forecasts, 2010-2025
		Registered Nurses Licensed Nurse Practitioners

	Simulation and training	Florida Hospital Association; Florida Hospitals' Workforce Challenges: 2012 Workforce Survey Highlights (2012)
Closing the Talent Gap: What Florida Needs from its Talent Supply Chain; Florida Council of 100 in partnership with Florida Chamber of Commerce (2010)	Financial services Banking Insurance Securities and investments	Registered Nurse Stepdown & Telemetry Nurses ARNP Emergency Nurses Pediatric CCU Nurses Operating Room Nurses Medical/Surgical Nurses
Science and Technology Research and Development STEM	Professional services Corporate headquarters Engineering Legal Accounting Consulting	
Florida Department of Education - Critical Shortage Areas (2013)	Emerging technologies Global logistics Marine sciences Materials Science Nanotechnology	Occupational Therapists Speech Pathologists Physical Therapists Certified Surgical Technicians Medical Records Coder Medical Technologists Pharmacy Technician Cardiovascular Technician
English for Speakers of Other Languages (ESOL) Middle and High School Science Foreign Languages Education English/Language Arts Middle and High School Reading Exceptional Education Middle and High School Math	Manufacturing Food and Beverage Automotive and marine Plastics and rubber Machine tooling	
	State University System - Gap Analysis (2013)	
	Public Relations Specialists Computer Network Architects Computer System Analysts Computer Programmers Software Developers - Applications Software Developers - Systems Software Graphic Designers Industrial Engineers Kindergarten Teachers Middle School Teachers Medical and Clinical Laboratory Technologists Accountants and Auditors Financial Analysts Credit Counselors Training and Development Specialists Operations Research Analysts Insurance Underwriters	

National/ Federal Level Reports ad Data

Helios Education Foundation: Theory of Change – Postsecondary Education Success (2012)	US Department of Commerce, Economics and Statistics Administration (2011)	Council on Foreign Relations: US Education Reform and National Security (2012)
STEM	STEM - Computer and Mathematics - Engineering and Surveying - Physical and Life Science - STEM Management Occupations	Defense and Aerospace Industries Science and Engineering Cyber Security Information Security Foreign Languages STEM Management Computer Engineering
Federal Science, Technology, Engineering, and Mathematics (STEM) Education: 5 year Strategic Plan (2013)		
STEM Teachers	An Economy that Works: Job Creation and America's Future; McKinsey & Company (2011)	
Help Wanted: Projections of Jobs and Education Requirements through 2018; Georgetown Center on Education and the Workforce (2010)	Healthcare Business Services Leisure and Hospitality Construction Manufacturing Retail	
Management occupations Business operations specialists Financial specialists Computer and mathematical science occupations Architects and technicians Engineers and technicians Life and physical scientists Social scientists and technicians Legal occupations Education occupations Healthcare practitioners and technical occupations	Nutritionists Welders Nurse's Aides Computer Specialists Engineers Management Scientists Computer Engineers	

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Discussion of USF Regional Institution Missions

PROPOSED COMMITTEE ACTION

For information

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution

BACKGROUND INFORMATION

In the context of University Work Plan presentations in June 2013, the University of South Florida was directed to return to the Board of Governors in order to address the issues of mission-setting at its regional institutions—USF St. Petersburg and USF Sarasota-Manatee. University of South Florida representatives will provide information with regard to how missions are established, and the extent to which mission-setting is a dialogue between the USF Tampa campus, the USF Board of Trustees, and the regional institutions.

Supporting Documentation Included: July 19, 2013 letter from President Genshaft to Chair Colson

Facilitators/Presenters: President Judy Genshaft



UNIVERSITY OF SOUTH FLORIDA

Office of the President

July 19, 2013

Dean Colson Esq., Chair
Florida Board of Governors
State University System of Florida
325 West Gaines Street, Suite 1614
Tallahassee, Florida 32399-0400

Dear Chair Colson:

Thank you for allowing the University of South Florida (USF) to host the recent meeting of the Florida Board of Governors (BOG). I thought some follow up on the discussions that took place during the BOG's Strategic Planning Committee meeting regarding USF St. Petersburg and USF Sarasota-Manatee, and their relationship to USF's main, doctoral degree granting research campus, would be helpful.

There was significant discussion during the meeting in which USF St. Petersburg (USFSP) and USF Sarasota-Manatee (USFSM) were referred to as "branch campuses" of USF. The 2001 legislative changes really put the former regional campuses at USF in a different category and with all the new BOG members we thought it would be helpful to review that change which placed the USF system in a unique situation-Pursuant to the enactment of Sections 1004.33 and 1004.34, Florida Statutes, by the Florida Legislature in 2002, these institutions are each "operated and maintained as a separate organizational and budget entity" of USF with "all legislative appropriations (made to those respective institutions)...set forth as separate line items in the annual General Appropriations Act." Further, those sections of statute mandated that USF seek separate SACS accreditation for each of those campuses, which was granted by SACS to USFSP in 2006 and to USFSM in 2011. While USFSP and USFSM are accredited to award degrees at the bachelor's and master's level, the USF main campus in Tampa is accredited also to award degrees at the doctorate level, including the M.D.

Separate SACS accreditation requires that those newly designated separate "institutions" within the USF System umbrella exercise control over their own academic degree programs and related academic and student support services, as well as over their budgeting and financial functions, free of interference from the "main" campus. It also leads to the three USF institutions being classified separately and differently by the Carnegie Foundation for the Advancement of Teaching, listed separately in the *U.S. News and World Report* annual rankings, and reporting data separately to the USDOE's IPEDS data warehouse.

As you can see, the relationship of USFSP and USFSM to the "main" USF campus is absolutely unique within the SUS. Although some other state universities operate "branch" campuses, all other "branch" campuses in the SUS operate under the accreditation of their main campus and receive funding as a component of their main campuses' annual lump-sum appropriation to be disbursed as its Board of Trustees deems appropriate. Conversely, the USF System is governed by one Board of Trustees but it consists of three separately-accredited and separately-funded institutions in accordance with state law and further regulated by SACS standards as prescribed in the *Principles of Accreditation*.

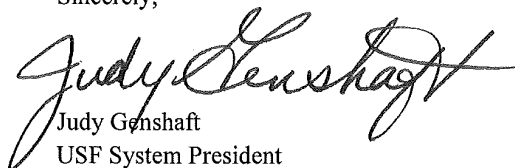
I can assure you, however, that the USF System takes meticulous care to plan strategically for the mission and needs of each USF System institution so as to avoid unnecessary duplication where possible and to facilitate student access and success. We have worked to ensure that local and regional workforce and access needs are met while advancing the national and global impact of the "USF" brand. However, based on the questions and concerns raised at the most recent review of Work Plans by the BOG's Strategic Planning Committee, the USF BOT has committed to revisit the mission and vision statements of the USF institutions to ensure alignment with our internal priorities and with regional, statewide and local needs. The arrival of our new Regional Chancellor, Dr. Sofia Wisniewska, at USFSP on July 1 presents an excellent opportunity for such review.

While we feel the USF System is organized for great and efficient success, one unfortunate side effect of this organizational model is that it does not comport well with the traditional IPEDS method of calculating graduation rates – an issue that did not escape the attention of your committee. However, this does not mean that students at USF's regional institutions are not graduating. As you know, the traditional method of calculation looks only at students who enter an institution as first-time-in-college (FTIC) students attending fulltime and tracks them through graduation at that institution only. By this simplistic calculation method, only 32% of USFSP's latest FTIC cohort graduated from USFSP in six years or less. However, this does not take into account the additional 17% of that cohort who graduated from USF in Tampa (nor the additional 5% who graduated from another SUS institution) during that same time period. If USFSP were merely allowed to count in its graduation rate those FTICs who began at that institution and graduated from USF in Tampa, its six-year graduation rate (49%) would be higher than that of all other SUS institutions except UF, NCF, FSU, UCF and USF Tampa. And it is worth further noting that because those additional 17% began as FTICs at USFSP, USF Tampa gets no credit for graduating those students in its graduation rate under the IPEDS calculation either.

This is why USF, and many other SUS institutions, are such enthusiastic proponents of the newly launched national initiative to modernize graduation rate calculations under the Student Achievement Measure (SAM) Project, which was unveiled on June 24 and supported by most major higher education organizations including the AAU. Despite this, we still firmly believe there is room for improvement in the graduation rates of all USF System students and we remain focused on that goal.

The USF BOT is especially proud of USF's position as a Top 50 national research university while providing access to and educating a very broad socioeconomic spectrum of students. The USF System of three separately-accredited institutions working together to provide students opportunities and promote research and economic development in the Tampa Bay Region and beyond is something our community remains extremely proud of. I look forward to working with you and your board in the future to ensure alignment of all missions and visions across the SUS and within the USF System to ensure that the future needs of our state are met. If I can be of any further assistance to you, please do not hesitate to contact me.

Sincerely,



Judy Genshaft
USF System President

Enclosures

cc. Members, Florida Board of Governors
Frank Brogan, Chancellor, State University System of Florida
Members, USF Board of Trustees

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Preeminent State Research University Benchmark Plans

PROPOSED COMMITTEE ACTION

Approval of preeminent state research university benchmark plans.

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution; Section 1001.7065, Florida Statutes

BACKGROUND INFORMATION

Chapter 2013-27, Laws of Florida, included the creation of the preeminent state research universities program. On June 10, 2013, the Board designated the University of Florida and Florida State University as the only universities meeting the requirements for the designation of preeminent state research university; the University of Florida met all twelve standards specified in the legislation, and Florida State University met eleven.

The legislation required each designated university to submit to the Board for approval a 5-year benchmark plan with target rankings on key performance metrics for national excellence. Upon approval of each university's plan, the legislation requires the Board to award the university funds provided in the General Appropriations Act for this purpose. The 2013-2014 GAA included, within each university's lump sum appropriation, \$15 million designated for this purpose in legislative work papers. Upon the university's meeting the benchmark plan goals annually, the Board shall award an amount specified in the GAA throughout the 5-year period.

Supporting Documentation Included:

1. University of Florida's Preeminence Benchmark Plans
2. Florida State University's Preeminence Benchmark Plans

Facilitators/Presenters: President Bernie Machen; President Eric Barron

University of Florida Preeminence Plan November 2013

Background. In 2013, the Legislature and Governor Scott approved SB 1076. Through benchmarks specified in the bill, it designated the University of Florida as the state's highest achieving preeminent university. By virtue of this achievement, UF was awarded several opportunities in the bill. These included the opportunity to create a high quality fully online four-year baccalaureate degree program (subsequently named UF Online), the authority to require up to twelve credits of a signature core course experience for undergraduate students, and support for UF's Preeminence Plan to rise among the ranks of the nation's top public research universities. The benefits associated with the Preeminence Plan include:

- Increased State of Florida, SUS and University of Florida prominence nationally and globally
- Accelerated innovation and economic development

Quality Indicators. There is a dizzying array of national and global rankings. Each of them uses a different mathematical formula to collapse the achievement levels in various areas into a single number called the rank. In fact, universities should seek excellence in all of the areas that are important to students, citizens, state and nation. Consequently, UF has chosen to focus its attention and efforts on 29 metrics that are used in most ranking methods. Each of these metrics measures an area in which the university strives for excellence. Many of these metrics are critical to UF's mission and identity as one of the nation's premier public research universities, as embodied in the quality criteria of the AAU.

The University of Florida is the state's sole member of the Association of American Universities (AAU), "the nation's association of leading comprehensive research universities distinguished by the breadth and quality of their programs of research and graduate education. Membership in the association is by invitation."¹ In the first stage of membership assessment, AAU uses a set of quantitative quality indicators. Phase I indicators are used as "primary indicators of institutional breadth and quality in research and education." Phase II indicators are used "to provide additional important calibrations of institutional research and education programs."

¹ http://www.aau.edu/about/membership_information.aspx?id=1110

Phase I indicators

- Competitively funded federal research support
- Faculty holding membership in the National Academies (NAS, NAE, IOM)
- Faculty holding specified recognized faculty awards, fellowships, and memberships
- Citations (providing a measure of both research volume and quality)

Phase II indicators

- USDA, state, and industrial research funding
- Doctoral education
- Number of postdoctoral appointees
- Undergraduate education – does the institution meet its commitment to undergraduate education?

UF assembled the following list of 29 metrics to serve as benchmarks after considering the AAU quality indicators above, additional metrics that are important to the UFBOT, the BOG, the Legislature, and the Governor, and metrics used in other ranking systems such as U.S. News & World Report.

Metric	Current UF Rank	UF Metric	Target Ranks				
			2014	2015	2016	2017	2018
Student Admissions							
Freshmen in top 10% high school class	12	78%	12	11	10	10	10
Freshmen acceptance rate	7	43%	Remain in top 10				
Median undergraduate SAT 2009	10	1250	Remain in top 10				
Student Success							
Graduation and retention rank	8	38	Remain in top 10				
Average freshmen retention rate	5	96%	Remain in top 10				
Predicted six-year graduation rate	5	85%	Remain in top 10				
Actual six-year graduation rate	11	84%	11	10	10	10	10
Doctorates granted 2010	4	771	Remain in top 10				
Total number undergraduate STEM degrees	7	2,501	Remain in top 10				
Total number graduate and professional STEM degrees	1	2,346	Remain in top 10				
Total number undergraduate minority degrees	1	2,329	Remain in top 10				
Total number graduate and professional minority degrees	1	786	Remain in top 10				
Faculty							
Student to faculty ratio	16	21:1	16	16	15	14	13
Faculty resources rank	13	115	No change anticipated				
Percent of faculty who are full time	2	98%	Remain in top 10				
National Academy members 2010	16	23	16	15	15	14	13
Faculty awards 2010	11	22	11	11	10	10	9
Postdoctoral appointees 2009	9	597	Remain in top 10				
Value							
Average student debt 2011	2		Remain in top 5				
Princeton Reviews' Best Value Colleges Rank	4	-	Remain in top 5				
Smart Money College Rank	2	-	Remain in top 5				
Kiplinger Best Public College Value	3	3	Remain in top 5				
Research & Technology Transfer							
Total US patents granted 2011	4	86	Remain in top 5				
Total licenses granted 2011	2	131	Remain in top 5				
Total start up companies 2011	4	12	Remain in top 5				
Total research expenditures 2010 (x1,000)	9		Remain in top 10				
Total federal research expenditures 2010 (x1,000)	13		13	12	12	11	10
Total research expenditures S&E excluding medical (x1,000)	8		Remain in top 10				
Total research expenditures S&E including medical (x1,000)	9		Remain in top 10				

Data in this table dates from January 2013, the most recent comparative data available. The first column describes the benchmarks². The column marked "Current UF rank" ranks UF among the top 16 public AAU universities. Note the ones highlighted in green. In these 22 metrics, UF already ranks in the top 10 and, in many cases, among the top 5. UF commits to remaining in the top 5 or top 10 in each case.

There are seven metrics in which UF does not currently rank among the top 10. These are highlighted in yellow.

² UF will continue to use these benchmarks provided comparative data remains publicly available and consistently formulated.

The first metric measures the percent of UF's entering freshman class that ranks among the top 10% of its high school graduating class. UF currently ranks 12th among the 16, with 78%. UF commits to improving this measure, while also continuing to maintain access for students from low-income first-generation families.

The second metric measures the six-year graduation rate of FTICs. UF is proud of its graduation rate, which is the best in the SUS and among the best in the nation. As shown in the table, the 84% graduation rate ranked UF 11th among the 16. Since creating this table, the UF six-year graduation rate has risen to 85%, but we do not yet have national data to determine a new ranking. Recently, UF has also placed increased emphasis on improving the four-year graduation rate. In the past four years, that rate improved from 59% to 67%.

The remaining metrics are all about investment in faculty. The \$15 million annual investment will help improve these metrics, although it alone will not suffice to push UF into the top ten in the next two metrics.

UF's student to faculty ratio is 21:1. As noted, this ranks UF 16th among comparator AAU public universities. The universities ranking ahead of UF typically have student to faculty ratios of 18:1, 16:1 and even 15:1. The ratio reflects the fact that UF serves a large undergraduate population with a limited budget to employ faculty.

The Faculty Resources metric is based on the average spending per student as drawn from IPEDS categories of instruction, research, student services, and related educational expenditures.

The metrics "National Academy members" and "Faculty Awards" measure the awards and honors earned by the UF faculty. In these categories, we rank 16th and 11th, respectively.

Finally, "Total federal research expenditures 2010" reflects the faculty's success in winning federal contracts and grants. These are an important subcategory of grants and contracts because they are peer-reviewed and reflect indirectly peers' assessment of the quality of UF faculty research efforts.

Solution: Strategic Faculty Hires UF will be able to address the percentage of freshman emanating from the top 10% of their high school graduating class through improved recruiting efforts. We also expect to continue improving the six-year graduation rate through advising and policy.

Because the remaining metrics center on the quality of the faculty, UF has chosen to invest the entire \$15 million allocated by the Legislature into hiring new faculty in targeted research areas. Through strategic hiring, we expect to maximize the return on investment in terms of research, grants, faculty recognition, scholarly productivity, tech transfer and university reputation. In addition, the President has committed an additional \$15 million per year to the Preeminence Plan to support additional hires, laboratory renovations and startup, graduate students and postdocs, etc. This will be backstopped by an \$800 million University of Florida Foundation Preeminence Campaign in support of the university's push for excellence.

Strategic Investment of the \$15 million. The deans and directors of the university were invited to submit proposals for investment. The invitation emphasized the importance of interdisciplinary research, the opportunity to tackle problems of national and global significance, the opportunity to build on UF's current strengths, and research areas likely to receive future federal grant support. They submitted 52 proposals that were reviewed over the course of several weeks by UF's Senior Vice Presidents and the Vice President for Research. They recommended 22 areas of investment to the President. After consultation with a committee of Distinguished Professors, President Machen selected 16 areas for the first wave of investment totaling \$13.325 million. (A call to deans and directors has been issued for a second wave of investment.) Many of these areas build on existing strengths. For example, the allocation to Neuroscience and the Brain expands the work being done by the McKnight Brain Institute and anticipates substantial federal investment over the next twenty years. As a second example, UF launched the Southeast Center for Integrated Metabolomics in September with a five-year \$9 million grant from the National Institutes of Health. The \$900,000 investment in metabolomics indicated below will build on the faculty's current success in this research area.

- Big data: \$3.8 million
- Law: \$250,000
- Cyber-security: \$330,000
- Drug Discovery and Development: \$900,000
- Food Security, Safety and Distribution Systems: \$1.45 million
- Historical and Environmental Archaeology: \$150,000
- Latin American Development: \$300,000
- Materials Innovation: \$260,000
- Mathematical Modeling of Diseases: \$300,000
- Metabolomics: \$900,000
- Mucosal Immunology: \$500,000

- Neuroscience and the Brain: \$2.2 million
- Global Health Initiative: \$500,000
- Optimizing Early Childhood Interventions: \$575,000
- Plant Genomics: \$710,000
- STEM Translational Communication Research: \$200,000

The “Big Data” initiative merits special mention by virtue of the size of the investment. Information technology is providing remarkable opportunities to create, collect, compute, and communicate huge quantities of data. Future research in a host of fields will depend on the ability to leverage access to massive and complex data sets. The future of health care includes predicting disease and designing personalized treatments from a person’s genetic code. The management and predictions of crop performance will employ the analysis of high resolution satellite images and distributed sensors. The design of next generation aircraft and automotive transportation is increasingly dependent on computer simulations and is becoming autonomous in its function. In order to meet these challenges and create a campus-wide presence that is identifiable both internally and externally, the university will create the Informatics Institute. Its purpose will be to facilitate leading edge informatics research in all sectors of the campus.

To support this Big Data initiative through an investment in infrastructure, UF and industrial partners created the state’s most powerful supercomputer, dubbed the HiPerGator. It has a peak speed of 150 trillion calculations per second. As one illustrative example to illustrate its capabilities, it reduced the time needed to identify safe drugs from a months-long calculation to a single eight-hour work day.

All of these hiring authorizations have been distributed to the appropriate deans and directors. The campus has chosen to emphasize hiring faculty with accomplished track records to accelerate the Preeminence Plan.

Further Steps. The 75 to 100 new faculty made possible by the \$15 million will strengthen many of UF’s research areas and provide that extra “push” needed to raise the level of visibility and research accomplishments over the next five to ten years. During that time, it is also appropriate to “fine tune” the research missions and scholarly productivity of these units. The university administration has begun using the resources provided by Academic Analytics to assess the scholarly productivity of research units and doctoral programs and over the course of the next year will address areas for improvement.

In Conclusion. The University of Florida is grateful to Governor Scott, the Legislature, and the Board of Governors for their support of this program to further strengthen the university. These investments will enhance the visibility of UF, the SUS, and the State of Florida. We fully expect that the state will realize substantial return in terms of economic development over the next five years as the full benefits of the investment unfold.

Five Year Benchmarks to Top 25 for Florida State University

Comparison: Public Research Tier 1 Universities

Metric	Current FSU Rank	FSU Metric	Top 25 Target	Current Rank	FSU Target Ranks					
					2014	2015	2016	2017	2018	2019
Student Selectivity (12.5% weight)										
Freshman Acceptance Rate	19	54%		19	Remain in Top 20					
Top 10% High School Class	29	41%	48%	29	29	28	27	26	25	25
Top 25% High School Class	28	80%	86%	28	28	27	27	26	25	25
Verbal SAT	13	602		13	Remain in Top 15					
Math SAT	33	600	614	33	33	32	31	30	29	29
Graduation and Retention (22.5% weight)										
Average Freshman Retention	17	91%		17	Move to Top 15					
Average 6-year Graduation Rate	28	75%	79	28	28	27	27	26	25	25
Graduation Rate Performance (7.5% weight)										
Predicted vs. Actual 6-year Graduation Rate	3	11		3	Remain in Top 10					
Faculty Resources (20% weight)										
Faculty Compensation*	27	\$108K	\$113K	27	27	27	27	27	27	27
% Faculty with Terminal Degrees	26	92%	93%	26	26	26	25	25	25	25
% Faculty Full-time	43	90.9%	94.5%	43	43	42	41	38	36	34
Student/faculty Ratio	70	(26:1)	(17:1)	70	70	69	65	60	55	50
Class size less than 20	54	34%	42%	54	54	50	45	40	35	30
Class size more than 50	14	14%		14	Remain in Top 15					
Academic Reputation (22.5% weight)										
Peer Assessment	44	3.0	3.5	44	44	44	44	43	43	43
High School Counselors	47	3.6	3.9	47	47	47	47	46	46	46
Financial Resources (10% weight)										
Resources per Student	70	\$17K	\$38K	70	70	69	69	68	68	68
Alumni Giving (5% weight)										
% Giving	9	18.4%		9	Remain in Top 10					

*Salary figure combines all professorial faculty ranks. FSU is competitive at the Assistant Professor level but falls behind at the Associate Professor level and substantially so at the Full Professor level.

**STATE UNIVERSITY SYSTEM OF FLORIDA
BOARD OF GOVERNORS
Strategic Planning Committee
November 20, 2013**

SUBJECT: Florida Center for Cybersecurity

PROPOSED COMMITTEE ACTION

Approval of the report and plan for the creation of a Florida Center for Cybersecurity at the University of South Florida.

AUTHORITY FOR BOARD OF GOVERNORS ACTION

Article IX, Section 7, Florida Constitution; Section 2, Chapter 2013-040, Laws of Florida

BACKGROUND INFORMATION

Proviso language in the General Appropriations Act of 2013 requires that:

The Board of Governors shall submit a report no later than December 1, 2013, to the Legislature and the Governor that provides a plan for the creation of a Florida Center for Cybersecurity to be principally located at, and under the leadership of, the University of South Florida. The goals of the Florida Center for Cybersecurity shall be: to position Florida as the leading state in cybersecurity and its related workforce; to create new jobs in the cybersecurity industry in the state; to educate students to excel in cybersecurity professions in the state; to enhance the capabilities of the existing cybersecurity workforce in the state; to work with the business community statewide to identify and remedy any cybersecurity vulnerabilities; and to attract financial services, healthcare, defense industry and other companies to relocate to, or startup within, the state. The report shall include any proposed capital and operational startup costs as well as a budget to support the ongoing operations of the proposed Florida Center for Cybersecurity.

The University of South Florida has taken the lead in drafting the report and plan for the new center, working with board staff. If funded by the 2014 Legislature, USF may seek approval of the Florida Center for Cybersecurity as a State of Florida Center under Board Regulation 10.015.

Supporting Documentation Included: 1. Executive Summary
2. Report

Facilitators/Presenters: Ralph Wilcox, Provost, USF



What?

Right now, Florida faces a tight window of opportunity to capitalize on one of the most in-demand, highest-paying, and rapidly growing fields of our time—cybersecurity. With six-figure starting salaries, this specialized STEM field can keep thousands of Florida graduates working in the state by creating new high-skilled jobs, attracting high-tech companies to open their doors here, and serving as a vital resource to businesses and national defense.

Recognizing this need and opportunity, the 2013 Florida Legislature and Governor Rick Scott asked the Board of Governors to provide a plan to create and fund the *Florida Center for Cybersecurity* (FCC), to be housed under **the leadership of the University of South Florida. The charge: Secure Florida's** place as the national leader in this burgeoning field.

Why?

- Position Florida as the national leader in cybersecurity and its high-skilled workforce through education, community engagement and innovative, interdisciplinary research;
- Create thousands of high-paying jobs **in the state's cybersecurity industry**;
- Serve as a statewide facilitator of cybersecurity education—providing degrees, certificates and training while contributing to Board of Governors priorities and encouraging non-IT students to obtain industry-recognized cybersecurity specializations to enhance employability and wages upon earning their desired degrees;
- **Enhance Florida's cybersecurity** workforce, including reintegrating military veterans by utilizing their unique skills, training and clearance;
- Act as a cybersecurity clearinghouse for statewide business and higher education communities—sharing knowledge, resources and training opportunities to help mitigate cybersecurity threats, and optimizing investment to eliminate unnecessary duplication;
- Attract new financial, healthcare, transportation, utility, and defense entities to Florida.

Where?

Florida is the right place for this endeavor.

It is home to several of the nation's largest companies, which are dependent upon information security. These include Raymond James, Jabil Circuits, Tech Data, Citrix, CSX, World Fuel Services, Florida Blue, Hertz, Amazon and AT&T. The FCC will provide a one-stop-shop for businesses to share information, receive training and recruit home-grown graduates with cybersecurity expertise.

Additionally, the State University System of Florida can provide a strong network of cybersecurity knowledge from Pensacola all the way to Miami. The FCC can serve as a nucleus that unites disparate pockets of excellence into a cohesive statewide network.

Locating the FCC at the University of South Florida in Tampa Bay, which already has a solid foundation in cybersecurity education and research, will **maximize the state's return on investment. Tampa Bay is a center for financial information processing and headquarters of significant technology industries.** It is also home to U.S. CENTCOM and SOCOM at Tampa's MacDill Air Force Base, allowing the FCC to capitalize on security expertise in its backyard and serve the uniquely qualified population of returning veterans.

How much?

The FCC provides a bold, long-term vision with a high-impact, short-term return on investment.

Operating: A phased-in state budget request of \$16.1 million, coupled with repurposed existing university funds and private support, will facilitate awarding thousands of degrees, certificates and certifications beginning in 2014:

- Phase I: \$7.1 million to establish the FCC, which includes recruiting a nationally-recognized leader and technical support team with the requisite clearance, and expanding curricula offerings.
- Phase II: \$5 million to expand and accelerate SUS capacity for education and training of the high-skilled, high-paid cybersecurity workforce.
- Phase III: \$4 million to create satellite nodes of the Florida Cybersecurity Network in selected markets—similar to Florida's Small Business Development Network— in partnership with SUS institutions and other organizations.

Capital: A phased-in investment of \$30 million will provide for a state-of-the-art cybersecurity facility, which will be a shared resource for the entire state. An initial \$10 million of that total will allow for the construction of a sensitive compartmented information facility (SCIF) used to store, analyze and help protect classified information.

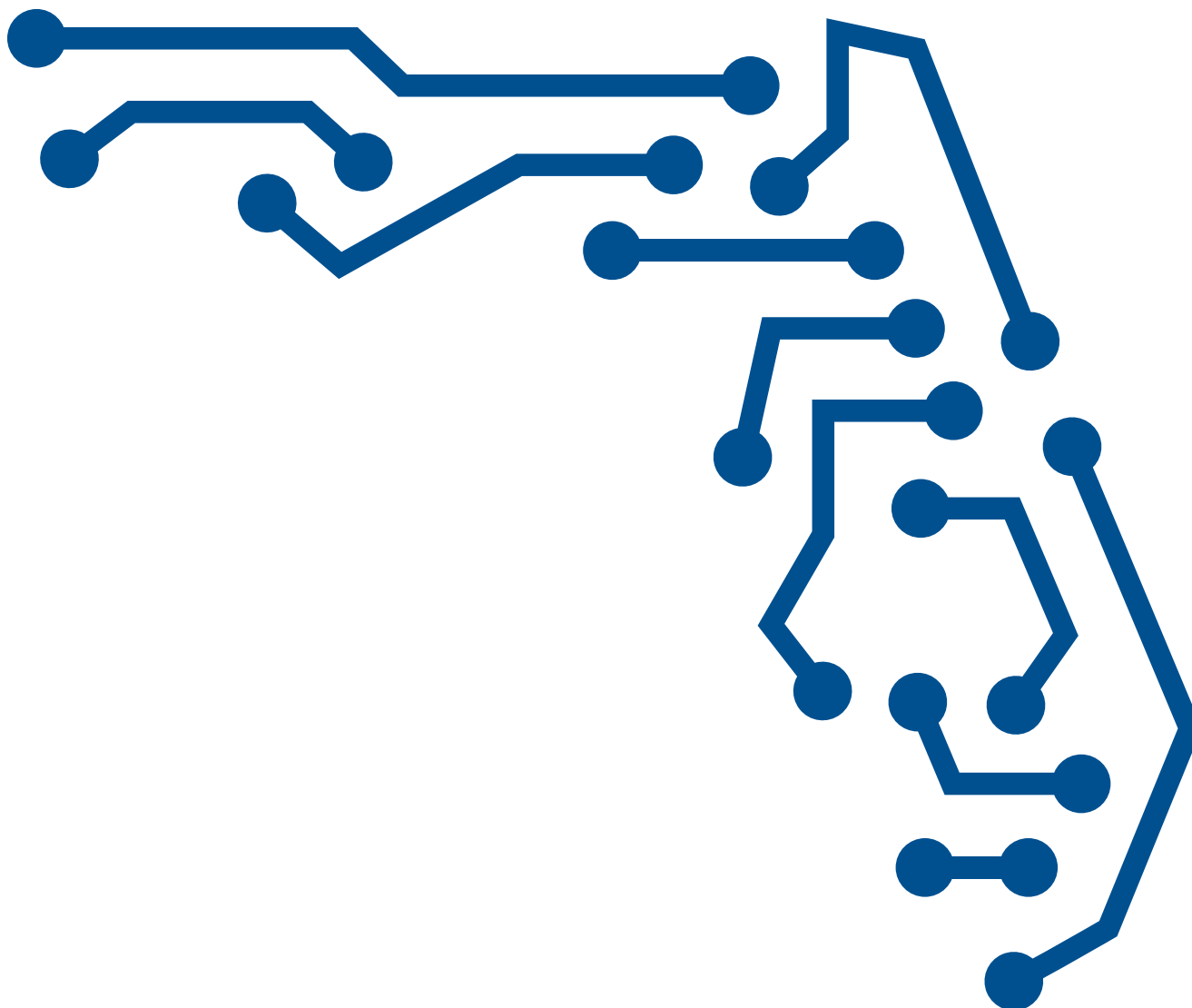
Florida Center for Cybersecurity



Making Florida the Cyber State

**A Board of Governors Report
To be submitted to the Florida Legislature and Governor
December 2013
Executive Summary**





Executive Summary

Right now, Florida faces a narrow window of opportunity to capitalize on one of the most in-demand, high-paying, and rapidly growing fields of our time—cybersecurity. With six-figure starting salaries, this specialized STEM field can keep thousands of Florida graduates working in the state by creating new high-skilled jobs, attracting high-tech companies to open their doors here, and serving as a vital resource to businesses and national defense.

Within the next 12 months, one of a handful of states will emerge as the leader in cybersecurity and become the magnet that attracts the billions of dollars of private-sector and military spending that will be invested in this emerging field. Florida can become this leader.

Recognizing this need and opportunity, the 2013 Florida Legislature requested this report to provide a plan and budget to create the Florida Center for Cybersecurity, to be housed under the leadership of the University of South Florida. The charge: Secure Florida's place as the national leader in this burgeoning field. USF, through collaboration with its sister institutions across the State University System and private partners, can meet the challenge. The plan and proposed investments laid out in this report provide the blueprint for Florida to develop cybersecurity as a central pillar of its economic future.

The demand for cybersecurity professionals over the past five years grew 3.5 times faster than the demand for other IT jobs and about 12 times faster than for all jobs.

– *Computerworld magazine*

The demand is huge. Even when compared with other high-demand IT jobs, demand for cybersecurity jobs is growing more than three times faster. Business leaders say they can't hire skilled cybersecurity workers fast enough, and our nation's military and homeland security agencies are looking for help in navigating the constantly changing world of cybersecurity research.

The question now becomes: how many of the hundreds of billions of dollars of public- and private-sector investment to be targeted at cybersecurity does Florida want to attract?

Across the State University System and at the state's independent colleges and universities, pockets of good work are now being done in this field. These include the first-of-its-kind cybersecurity master's degree just approved by USF's Board of Trustees, a recent local cybersecurity outreach effort by the University of West Florida, a cybersecurity program being promoted by the Florida Institute of Technology, and a cybersecurity-emphasized bachelor's degree at Embry Riddle University, to name a few. These efforts are valuable, and there is plenty of work to go around. But if Florida wants to claim a place of national prominence in this field, it needs a center that draws these disparate pockets into a unified statewide partnership.

The Florida Center for Cybersecurity (FCC) will provide focus, organization, a cohesive workforce development strategy, faculty skills and expertise, and avenues for collaboration among many currently independent state experts.

Executive Summary

The mission:

- Position Florida as the national leader in cybersecurity and its related workforce through education, community engagement and innovative, interdisciplinary research;
- Create hundreds of new high-paying jobs in the state's cybersecurity industry;
- Serve as the statewide facilitator of cybersecurity education—providing degrees, certificates and training while contributing to Board of Governors priorities and encouraging students in non-IT majors to obtain industry-recognized cybersecurity specializations to enhance employability and wages upon earning their desired degrees;
- Enhance Florida's cybersecurity workforce, including reintegrating military veterans by utilizing their specialized skills and training;
- Act as a cybersecurity clearinghouse for statewide business and higher education communities—sharing knowledge, resources and training opportunities to help mitigate cybersecurity threats, and optimizing investment to eliminate unnecessary duplication;
- Attract new financial, healthcare, transportation, utility and defense companies to Florida.

It is a bold, long-term vision with a high-impact, short-term return on investment.

The FCC's budget of \$16.1 million in operating funds will facilitate the awarding of several hundred new high-tech, in-demand degrees, certificates and industry certifications per year, beginning in the spring of 2014. (Annual estimates at USF alone are an additional 550 cybersecurity certificates awarded, 475 undergraduate certificates or concentrations, 270 graduate certificates or concentrations, nearly 900 more bachelor's degrees, 215 master's degrees and 50 more doctoral degrees.)

These graduates will enter the workforce prepared for the six-figure-salary jobs that are waiting for them. In the last five years, the number of cybersecurity-related job postings nationwide grew by more than 70 percent, compared to postings for more general technology jobs that grew by 20 percent and postings for all jobs that grew by 6 percent.

Meanwhile, employers and the state economy will benefit from an infusion of new skills and knowledge, as well as the "multiplier-effect" that a cybersecurity workforce provides. It has been estimated that for every job in IT, another 1.58 jobs will be gained in a particular region.

A new state-of-the-art cybersecurity facility, built with a phased-in investment of \$30 million, will provide a central resource for the entire state, particularly with the inclusion of a sensitive compartmented information facility (SCIF) used to analyze and help protect classified information. With one such facility available for research among institutions and public and private partners, Florida can maximize efficiencies—in much the same way as the Magnet Lab at Florida State University and the research vessels assigned to the Florida Institute of Oceanography.

In short, a presence in the cybersecurity industry will quickly bring Florida's workforce new revenue, new jobs and an unparalleled cybersecurity knowledge base. It will drive the State University System further toward national prominence as a coordinated unit, preparing graduates for the practical, high-paying jobs of today and tomorrow.

The number of job postings for all jobs grew by 6 percent between 2007 and 2012. Postings for computer jobs grew by almost 20 percent. Postings for cybersecurity-related jobs grew by more than 70 percent.

– *Computerworld magazine*

The Legislature and the Governor's Charge

This report has been prepared in response to a mandate by the 2013 Florida Legislature, whose vision for the creation of the Florida Center for Cybersecurity was enacted into law via proviso language in the General Appropriations Act for Fiscal Year 2013-2014 and signed by Gov. Rick Scott. Full text of the Legislature's charge to the Board of Governors is provided below:

The Board of Governors shall submit a report no later than December 1, 2013, to the Legislature and the Governor that provides a plan for the creation of a Florida Center for Cybersecurity to be principally located at, and under the leadership of, the University of South Florida. The goals of the Florida Center for Cybersecurity shall be: to position Florida as the leading state in cybersecurity and its related workforce; to create new jobs in the cybersecurity industry in the state; to educate students to excel in cybersecurity professions in the state; to enhance the capabilities of the existing cybersecurity workforce in the state; to work with the business community statewide to identify and remedy any cybersecurity vulnerabilities; and to attract financial services, healthcare, defense industry and other companies to relocate to, or startup within, the state. The report shall include any proposed capital and operational startup costs as well as a budget to support the ongoing operations of the proposed Florida Center for Cybersecurity.

Chapter 2013-40, Laws of Florida, Page 46.

Florida Center for Cybersecurity

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Need and Purpose

Risks and threats

Cybersecurity is increasingly vital as more and more people are connected by the Internet, businesses rely more heavily on cloud-based and big data services, and government officials face more web-based attacks related to terrorism, espionage or other areas of national security. The danger is growing exponentially as the world becomes more web-dependent. According to one research group, cyberattack incidents reported by federal agencies have grown nearly 800 percent in just the past six years, jumping 13 percent in 2012 alone.¹

Leon Panetta, then U.S. Secretary of Defense, warned in a 2012 speech that the United States could face a “cyber-Pearl Harbor ... An aggressor nation or extremist group could use these kinds of cyber tools to gain control of critical switches. They could derail passenger trains, or even more dangerous, derail passenger trains loaded with lethal chemicals. They could contaminate the water supply in major cities, or shut down the power grid across large parts of the country.”²

Cybercrime costs the United States \$338 billion a year.

- *Robin (Montana) Williams, branch chief of cybersecurity-education awareness at the Department of Homeland Security, as quoted in the Chronicle of Higher Education*

In the private sector, PricewaterhouseCoopers has found that 93 percent of organizations experienced some form of cybersecurity breach in the previous year.

Industry analysts have estimated that cybercrime “costs more than \$10 trillion to society, with billions of dollars being stolen from small, medium, and large-sized enterprises and identities of millions compromised.”³ It’s also estimated that cyber-crime is worth \$400 billion annually.⁴

Still, it’s difficult to understand the full cost of cybercrime due to its ripple effects. Stolen intellectual property, theft of technology data, costs in cybertheft prevention, lost productivity—these cyber-crime side effects

compound the impact of directly measurable dollar losses. Estimates of annual losses range from “a few billion dollars to hundreds of billions.” U.S. Rep. Mike Rogers (R-Alabama), a member of both the House Armed Services and Homeland Security committees, claims that hackers from China alone may cost the U.S. as much as \$2 trillion.⁵

The complexity is increasing not only because more people are connected to the Internet, but also because hackers have developed “backdoor” ways to attack more complex systems. “Attackers deterred by a large company’s defenses often choose to breach the lesser defenses of a small business that has a business relationship with the attacker’s ultimate target, using the smaller company to leapfrog into the larger one,” according to a 2013 Symantec report.⁶

Like a game of Whac-A-Mole, the ingenuity of cyber hackers and the lucrative temptations that drive their creativity cannot be defeated by one-time tech solutions. The game evolves with every new device, program or app. There is even now a black market for attack toolkits, some starting at just \$15.⁷

Meanwhile, not all security threats are intentional, nor do all data breaches come from outside. Employee carelessness poses cybersecurity problems of its own.⁸ Clearly, education and behavioral changes are crucial in our efforts to keep data safe.

As ominous as this world of cyber-threats is, it opens up a huge workforce and research opportunity for the state of Florida.

The National picture

Across the country, elected officials on both sides of the aisle have taken note of the significance of cybersecurity. Following the 9/11 attacks, the administration of former President George W. Bush was among the first to recognize the importance of cybersecurity as an issue of national security, and the emphasis has continued and investment strengthened under the current administration and Congress. The federal Comprehensive National Cybersecurity Initiative (CNCI) called cybersecurity “one of the most serious economic and security challenges we face as a nation.”⁹

In much the same way that Florida has greatly benefited from being a hub of 20th and early 21st century military activity and spending, the state must adapt to ensure it remains the center of 21st century cyber- and high-tech-warfare and federal defense investment. Our nation will inevitably invest trillions in its national cyber-defense over the next 25 years. Should that investment be made in Florida, or should those trillions of dollars in investment and human capital be ceded to other states who choose to invest their limited state funds in becoming America’s leader in cybersecurity? Two of the CNCI’s initiatives directly acknowledge the need to expand the effort beyond the federal government, paving the way for Florida to stake its claim in this growing field through an investment like the FCC:

Initiative #8: Expand cyber education

While billions of dollars are being spent on new technologies to secure the U.S. Government in cyberspace, it is the people with the right knowledge, skills and abilities to implement those technologies who will determine success. However there are not enough cybersecurity experts within the Federal Government or private sector to implement the CNCI, nor is there an adequately established Federal cybersecurity career field. Existing cybersecurity training and personnel development programs, while good, are limited in focus and lack unity of effort. In order to effectively ensure our continued technical advantage and future cybersecurity, we must develop a technologically-skilled and cyber-savvy workforce and an effective pipeline of future employees. It will take a national strategy, similar to the effort to upgrade science and mathematics education in the 1950’s, to meet this challenge.

Initiative #9: Define and develop enduring “leap-ahead” technology, strategies, and programs

*One goal of the CNCI is to develop technologies that provide increases in cybersecurity by orders of magnitude above current systems and which can be deployed within 5 to 10 years. This initiative seeks to develop strategies and programs to enhance the component of the government R&D portfolio that pursues high-risk/high-payoff solutions to critical cybersecurity problems. The Federal Government has begun to outline Grand Challenges for the research community to help solve these difficult problems that require ‘out of the box’ thinking. In dealing with the private sector, the government is identifying and communicating common needs that should drive mutual investment in key research areas.*¹⁰

The Cybersecurity Enhancement Act of 2010 (HR 4061), which passed with unusually strong bipartisan support, authorized “hundreds of millions of dollars for cybersecurity research and education.” This appropriation included funding for the National Science Foundation “to increase the size and skills of the cybersecurity workforce” and aimed to increase “research and development, standards development and coordination, and public outreach” in cybersecurity. While two-thirds of the appropriation covered 2010-2014, another \$320 million was designated for continued action after 2014.

U.S. Chief Information Officer Steven VanRoekel said more than \$13 billion has been recommended for cybersecurity. The Pentagon said in its spending plan that “Defense initiatives include creating teams of cybersecurity specialists to carry out defensive and offensive operations and constructing a new joint programs center for U.S. Cyber Command.” Moreover, Pentagon spending on cybersecurity is forecasted to jump from \$3.9 billion to \$4.7 billion in fiscal year 2014.¹²

Need and Purpose

The importance of establishing the FCC is summed up by Symantec's Francis deSouza: "We should see a building of the education foundation that will support the U.S. as a world leader in information security. . . . And we should see more focused research in a collaborative effort between the public and private sectors."

Workforce development

As Floridians and statewide organizations conduct more of their day-to-day business online, transmitting or storing confidential or sensitive information electronically, the need for network and information security has increased exponentially. Today, professionals with experience in cybersecurity are among the most sought after employees in the state.

Over the past two years, the number of jobs requiring a Certified Information Systems Security Professional (CISSP) certification has jumped from 19,000 to more than 29,000.

– *Computerworld magazine*

How sought after? In the last five years, the number of job postings for all jobs grew by 6 percent. Postings for technology jobs grew by almost 20 percent. Postings for cybersecurity-related jobs grew by more than 70 percent, according to a Computerworld report.¹⁴ According to the federal CNCI, "There are 30,000 specialists needed today, but only about 2,000 have necessary skills." Industry analysts estimate the market for cybersecurity services could exceed \$120 billion globally by 2017.

According to the U.S. Department of Labor (Career One Stop www.careerinfonet.org) demand for Information

Security Analysts in Florida will increase 19 percent between 2010 and 2020, serving the fourth-largest statewide market need behind California, Virginia, and Texas.

Simply look to local help-wanted ads. In just one year, according to one workforce analysis in Tampa Bay, job postings from IT companies like IBM, Lockheed Martin and JPMorgan Chase increased from 734 positions to 1,230 (a 68 percent annual increase).¹⁵ The report noted that Hillsborough and Pinellas counties expect an average growth rate for IT jobs of 15.8 percent through 2019, higher than the expected 13.6 percent rise of all employment in the same period. The report singles out cybersecurity as a rapidly expanding field.¹⁶

Moreover, growth in high-expertise jobs has a "multiplier" effect that benefits local economies. That same report notes that IT jobs as a whole accounted for nearly 56,000 jobs in Hillsborough/Pinellas in 2012, with a "labor income" contribution to the area's economy of \$4.7 billion annually and a multiplier effect of an additional 88,000 jobs. "Expressed in terms of a multiplier, for every job in IT, another 1.58 jobs will be gained in the region," the report indicates.

Not only are cybersecurity jobs in incredibly high demand, they are also very high paying. The 2012 median salary for Information Security Analysts in Florida was \$74,200 (rising to \$117,800 at the 90th percentile). High demand and high salaries are replicated for those in related occupations in Florida: Network and Computer Systems Administrators (\$72,600/\$113,800); Computer Systems Analysts (\$83,800/\$128,200); Computer and Information Systems Managers (\$120,500/\$187,200); Computer Network Support Specialists (\$50,500/\$90,700); and, Computer Occupations, All Other (\$73,900/\$103,700).

Specifically, Payscale.com lists the annual salary range for graduates with a bachelor's degree in cybersecurity at \$54,000 to \$82,000, depending on occupation, while a master's degree in cybersecurity yields an annual salary range of \$53,249 to \$98,477. Perhaps more importantly, Payscale.com reports that graduates with selected professional certifications in cybersecurity—one of the immediate and most prioritized return-on-investment strategies of the FCC—realize significant supplements to annual salary:

Certified Information Systems Security Professional (CISSP)	\$109,464 to \$154,178 ¹⁷
Certified Ethical Hacker (CEH)	\$100,000
SANS/CIAC Certified Forensic Analyst	\$85,000
Microsoft Certified Professional	\$70,000
CompTIA Security+	\$69,919
Cisco Certified Network Associate (CCNA)	\$67,407

Military veterans

According to a 2013 report by online job-search engine Monster.com, the number of U.S. military veterans rejoining the civilian population in each of the next four years will be substantial: 300,000. The hardest hit veterans in the current unemployment figures belong to the age range of 20-24, at 19.1 percent as of April 2013, compared to a national average of non-veterans in that age group of 6.9 percent.¹⁸

However, military veterans are uniquely qualified for the cybersecurity field because of their training, and often, their security clearances.¹⁹ The FCC's programs will provide skills that will not only capitalize on veterans' strengths but will also provide nearly immediate access to the kinds of jobs that will enable them to remain in the state and contribute toward its economic growth.

USF and Tampa Bay

The University of South Florida is a top-tier global research university dedicated to student success. It is home to the USF Institute for Secure and Innovative Computing (40.1540), which has been preparing graduates to meet cybersecurity workforce needs for many years—with still booming demand. The campus is located in Tampa Bay, one of the largest and fastest-growing metropolitan areas in the U.S, with a population of more than 4.3 million people. It's at the western end of the I-4 High-Tech Corridor and near MacDill Air Force Base. Home to both U.S. Central Command (CENTCOM) and U.S. Special Operations Command (SOCOM), the region is a hotbed for national defense operations as well as for healthcare, technology and financial services.

USF has been designated as one of the top four veteran-friendly universities in the nation. With the number of enrolled veterans growing each year, 10,000 active duty service men and women working at MacDill Air Force Base (excluding CENTCOM and SOCOM), and 1,200 retiring from the base annually and seeking to reintegrate into the civilian workforce, the supply of prospective cybersecurity students and employees with the requisite security clearance represents a significant pool of talent that will be attractive to new businesses looking to relocate to Florida.

Need and Purpose

USF also has a highly successful track record in drawing research funding (\$413 million in FY 2013) and is ranked 10th in the world among universities granted U.S. patents.²⁰ In addition, USF is home to the National Academy of Inventors, enhancing its researchers' impact and visibility.

USF has demonstrated a commitment to interdisciplinary collaboration. Because cybersecurity touches nearly every area of information use and every facet of life—from national security and politics to business and personal privacy—this field is among the most interdisciplinary of any. There are substantial and useful intersections in cyber-research with policy, law, compliance, psychology, criminology and forensics. Locating the FCC at USF will enable the center to tap into an existing, robust group of well-credentialed research and teaching faculty in a wide range of disciplines.

“Not a day goes by that you don’t hear about the latest data breach, identity theft or other malicious cyber-attacks. It’s becoming more prevalent, impacting individuals, as well as businesses of all sizes... USF has a proven track-record of working on classified cybersecurity projects, and engaging with the Department of Defense, as well as an outstanding faculty with the knowledge base and research background to offer bachelor’s and master’s degrees in cybersecurity along with certificates and certifications.”

– Bob Dutkowsky, CEO of Tech Data Corporation, Florida’s second- largest Fortune 500 headquartered company

With an appropriate level of investment by the state and repurposing of some existing USF resources, USF could undertake a bold expansion of existing degree and certificate programs (in business, engineering and the iSchool) along with the design and delivery of new marketable tracks/certificates to enhance career opportunities for high-enrollment degree programs, including criminology (cybercrime) and psychology (cyber-behavior). In addition, USF could radically increase the number of professional certifications awarded to both USF graduates and current employees in partnership with the private sector.

USF also has strong private-sector support. The Tampa Bay Partnership, an eight-county²¹ coalition led by local CEOs to promote regional economic development, is among many active professional groups nurturing the financial and industrial base of the area around USF. The region is home to 26,000 retail establishments; 27,000 finance, insurance, and real estate offices; 110,000 service providers; 16,000 construction companies; 5,600 manufacturing concerns; 7,000 wholesale trade offices; and 3,000 government establishments—

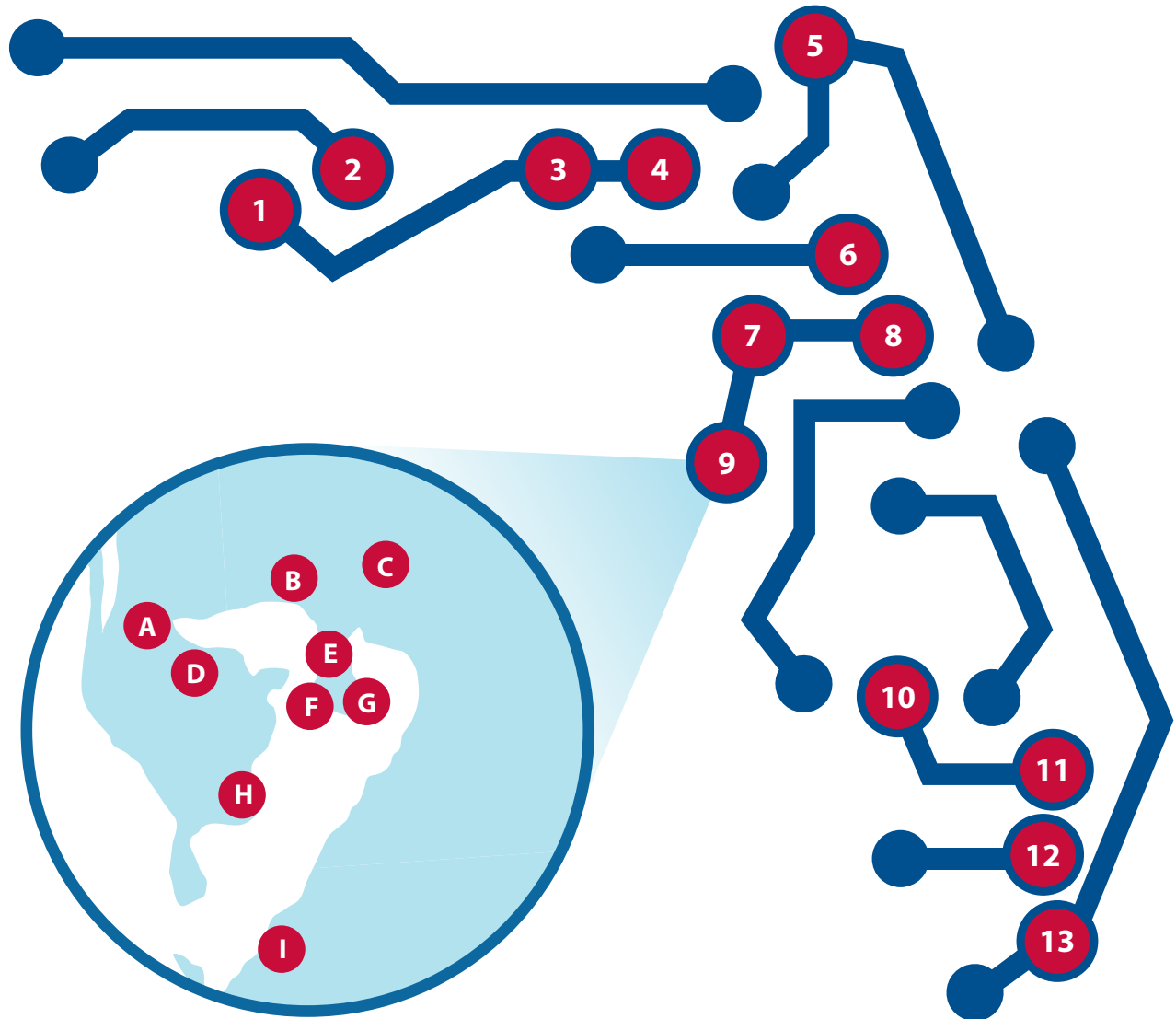
with a combined industry workforce of just under two million people.²² The Partnership estimates that 45 percent of the current population is in the prime employment years of 18 to 54,²³ a strong workforce pipeline in need of the high-paying jobs that IT positions provide.

Tampa Bay is home to several major health care employers, such as the James A. Haley Veterans’ Administration Hospital, All Children’s Hospital, Tampa General Hospital, and Moffitt Cancer Center, and has four top employers on the Fortune 500 list²⁴ : World Fuel Services, Publix Supermarkets, Tech Data and Jabil Circuit. Many of these businesses and employers will increasingly need help keeping data and financial records secure as potential cyberattacks become more complex and difficult to fend off.

USF has a history of collaboration not only with the business community, but across the State University System. For example, the Florida Institute of Oceanography (FIO), which is housed at USF, has been continually lauded as one of Florida's best examples of partnership and cooperation. FIO's mission—to provide a diverse and collaborative statewide research and education forum, to leverage intellectual resources within the State University System, to strengthen networks and work together to benefit the general public and policymakers—closely mirrors the FCC's goals. It is USF's hope that its sister institutions in the State University System will see great benefit from the resources, knowledge and connections the FCC will provide and opt into the collaboration provided by the FCC, much like the shared experiences and successes of the FIO.

This is a prime time for collaboration in the State University System, as further evidenced by another system initiative, the Sunshine State Education and Research Computing Alliance (SSERCA). This joint effort among USF, the University of Florida, Florida State University, the University of Central Florida, Florida International University and the private University of Miami, aims to build a statewide infrastructure to support collaborative research in the world of big data— another technological world that would benefit from a strong cybersecurity knowledge base. These kinds of partnerships are good uses of state resources.

A Statewide Network



TAMPA BAY

- A Tech Data
- B Tampa International Airport
- C University of South Florida
- D Jabil
- E Macdill Air Force Base
- F US SOCOM
- G United States Central Command
- H USF St. Petersburg
- I USF Sarasota-Manatee

AROUND THE STATE

- 1 University of West Florida
- 2 Eglin Air Force Base
- 3 Florida A&M University
- 4 Florida State University
- 5 University of North Florida
- 6 University of Florida
- 7 Florida Polytechnic
- 8 University of Central Florida
- 9 University of South Florida/Tampa Bay
- 10 Florida Gulf Coast University
- 11 Florida Atlantic University
- 12 Florida International University
- 13 United States Southern Command

Vision

The Florida Center for Cybersecurity at USF will be a national model in cybersecurity, cyber-intelligence and digital forensics to create a safe and secure information infrastructure for business and national security.

Mission

Guided by the goals the Legislature and Governor enumerated in the proviso language that commissioned this report, the FCC will pursue a bold vision and university-led mission to establish Florida as the nation's leader in cybersecurity in the following ways:

- Position Florida as the national leader in cybersecurity and its related workforce through education, community engagement and innovative, interdisciplinary research;
- Create thousands of new high-paying jobs in the state's cybersecurity industry;
- Serve as the statewide facilitator of cybersecurity education—providing degrees, certificates and training while contributing to Board of Governors priorities and encouraging students in non-IT majors to obtain industry-recognized cybersecurity specializations to enhance employability and wages upon earning their desired degrees;
- Enhance Florida's cybersecurity workforce, including reintegrating military veterans by utilizing their specialized skills and training;
- Act as a cybersecurity clearinghouse for statewide business and higher education communities—sharing knowledge, resources and training opportunities to help mitigate cybersecurity threats, and optimizing investment to eliminate unnecessary duplication;
- Attract new financial, healthcare, transportation, utility, and defense entities to Florida.

Position Florida as a national leader in cybersecurity and its related workforce

Florida can become the leading state in education, research and job production in cybersecurity. To do so, the FCC must dramatically increase the number of cybersecurity degree and certificate graduates and become nationally known for cutting-edge research and global connections. It will also achieve this goal by pursuing an aggressive agenda to encourage non-IT students to seek industry-recognized certifications in cyber professions and specialties that increase employability and wage earning potential within their desired fields of study.

The FCC will provide Floridians with a central location and e-portal to coordinate cybersecurity education and training, research and statewide outreach. It will serve students, parents and employers through an online cybersecurity platform by identifying career pathways; existing programs offered in K-12, state colleges, state and private universities; and available professional certifications. It will also offer employers a cyber-marketplace to post vacancies, identify qualified employees and provide curriculum feedback to ensure Florida's institutions are teaching the skills they need in future employees.

In addition, the FCC will work with external partners to obtain data or research sponsorships, foster interdisciplinary collaboration among researchers, and recruit postdoctoral students to enhance research productivity. It will serve as a valued resource for the entire State University System and for the state's independent higher education institutions, leveraging, promoting and branding Florida's many strengths to claim a place of national prominence.

Mission

Create new jobs in Florida's cybersecurity industry

Education and outreach to Florida businesses and citizens will support job creation for hundreds of highly paid cybersecurity specialists—particularly as awareness of threats increases and as a well-trained workforce grows to meet needs. In addition, the center itself, along with employment generated by increased research funding, will boost the state's workforce.

USF awards more than 10,000 degrees each year, a quarter of which are in STEM fields. The projected addition to workforce development in cybersecurity, as estimated by USF, includes increasing the number of new professional cybersecurity certifications to be awarded annually (550, each with earning potentials of approximately \$100,000) by USF Innovative Education through online and face-to-face courses, beginning in spring of 2014. (See Appendix A for curriculum details.)

Educate students to excel in Florida's cybersecurity professions

The FCC will ensure students have a speedy and productive pathway to a high-paying career through high-quality education, shaped around the rapidly changing needs of business and industry. Beginning in fall 2014, USF will offer a multidisciplinary master's degree in Cybersecurity with four degree concentrations: Cyber Fundamentals (CF), Cyber Intelligence (CI), Cybercrime (CC), and Information Assurance (IA). (For more specifics and courses, see Appendix A.)

USF's program will be interdisciplinary at its core, making it easy to conduct advanced cybersecurity research. Additionally, students enrolled in programs across the university can benefit from a cybersecurity specialization through certificates offered through the FCC. For example, a criminology student may pursue a specialization in cyber-crime; a psychology student may delve into the behavioral aspect of cyber-criminal profiling—thus graduating with the FCC's assistance with an industry-recognized, highly-employable certification as a cyber-professional within their major of choice.

A nationally recognized website that ranks education programs found that while the number of students graduating with degrees in cybersecurity-related programs tripled nationally between 2006 and 2010 (from about 1,200 in 2006 to close to 3,600 in 2010), the number of Florida graduates from similar programs remained stagnant—at the same very low level of just over 60 in 2010.²⁵ The initial rates of degree completion goals in the FCC's plans would increase Florida's figure by 17 percent in the first year, and by 33 percent including certificate completions.

Enhance the capabilities of Florida's existing cybersecurity workforce

Continuing education for retooling and retraining the cybersecurity workforce will be essential given the rapidly changing nature of the field. The FCC will offer specialized training and certifications to existing cybersecurity workers, ensuring that Florida's workforce remains on the cutting-edge. Reintegrating military veterans into this field will be mutually beneficial, as the state's cybersecurity workforce will benefit from their unique skills, training and clearance.

Work with the business community statewide to identify and remedy cybersecurity vulnerabilities

The FCC will act as a collaborative cybersecurity repository for statewide business and higher education communities—coordinating existing resources, sharing knowledge, offering professional compliance and risk-assessment services and helping to mitigate cybersecurity threats. The FCC will also offer consumer and corporate education programs. As one example, the FCC plans to offer "Cybersecurity for CEOs" training sessions, providing the business community with a clearer understanding of cybersecurity threats and defenses—an idea generated directly from state business leaders who provided feedback for the FCC's direction.

Mission

Attract financial services, healthcare, defense industry and other companies to relocate to or start up within the state

The FCC will work closely with Enterprise Florida/Workforce Florida to respond to needs of existing companies, those that are new to Florida and those that are considering locating to Florida. Having a ready supply of highly trained security specialists will attract cybersecurity companies to Florida, in addition to retaining companies who may be thinking of leaving the state due to insufficient talent. Additionally, the research performed at the center and resulting commercialization will entice industries to take advantage of Florida's expertise. The patents, licenses, software and hardware that will inevitably be discovered and developed through this research will lead to "home-grown" Florida start-up companies that can lead the industry.

Board of Governors' Priorities

The FCC's mission is grounded in education and workforce development, applied research and innovation and statewide engagement. They are guided by the Board of Governors' goals for the State University System, identified in the System's 2012-2025 Strategic Plan:²⁶

STATE UNIVERSITY SYSTEM GOALS	EXCELLENCE	PRODUCTIVITY	STRATEGIC PRIORITIES FOR A KNOWLEDGE ECONOMY
TEACHING & LEARNING	STRENGTHEN QUALITY & REPUTATION OF ACADEMIC PROGRAMS AND UNIVERSITIES	INCREASE DEGREE PRODUCTIVITY AND PROGRAM EFFICIENCY	INCREASE THE NUMBER OF DEGREES AWARDED IN STEM AND OTHER AREAS OF STRATEGIC EMPHASIS
SCHOLARSHIP, RESEARCH & INNOVATION	STRENGTHEN QUALITY & REPUTATION OF SCHOLARSHIP, RESEARCH AND INNOVATION	INCREASE RESEARCH AND COMMERCIALIZATION ACTIVITY	INCREASE COLLABORATION AND EXTERNAL SUPPORT FOR RESEARCH ACTIVITY
COMMUNITY & BUSINESS ENGAGEMENT	STRENGTHEN QUALITY & RECOGNITION OF COMMITMENT TO COMMUNITY AND BUSINESS ENGAGEMENT	INCREASE LEVELS OF COMMUNITY AND BUSINESS ENGAGEMENT	INCREASE COMMUNITY AND BUSINESS WORKFORCE

(p. 13 of the Board of Governors Strategic Plan)

Teaching and Learning

In its 2012-2025 Strategic Plan, one of the three pressing needs identified by the Board of Governors is "high skilled, high demand graduates for the state's workforce." The FCC will produce hundreds of degrees in a particularly high-demand STEM area, a Board of Governors Area of Strategic Emphasis, and through collaboration with other universities and external partners, will maximize productivity and efficiency.

Importantly, the FCC will also help align higher education with the state's critical workforce needs. According to the Board of Governors' Access and Attainment Commission's gap analysis, the top occupation in which there is a projected annual under-supply, exceeding 2,000 projected positions, is in STEM field. Specifically, this critical gap exists in computer occupations, including computer systems analysts, computer programmers and computer network architects—all clearly aligned with cybersecurity.

Scholarship, Research and Innovation

USF has a long and successful record of securing federal and industry funding to support university-based applied and basic research on behalf of the defense, health and business sectors. With the requisite clearances in place, top secret and classified research continues at USF. As host to the FCC, USF will track and, to the extent necessary, coordinate statewide research activities related to cybersecurity by bringing the combined assets of the state's research community (including

Mission

universities and groups like Draper and SRI) together to strengthen Florida's competitive position and perhaps more importantly brand Florida as a state cohesively attaining national cybersecurity preeminence.

Federal and private levels of investment in Cybersecurity R&D are expected to continue to grow for years to come. The FCC effort will include building statewide collaborations around any Florida organization – public or private – that is willing to partner. Some prime candidates to begin the statewide collaborative effort include the Institute of Secure and Innovative Computing (USF), the Center for Security and Assurance in Information Technology (FSU), and the Center for Cryptology and Information Technology (FAU).

Future FCC facilities, including a sensitive compartmented information facility (SCIF) used to analyze and help protect classified information, can serve as a shared resource for the State University System. This facility is essential when performing sensitive, high-security-clearance research, as with many projects now coming by way of federal grants through the National Security Administration, National Science Foundation, National Institutes of Health, and Department of Defense. Such a facility built at USF, which already has the highest level of clearance, represents the first phase of capital needs envisioned to provide for shared-use by Florida's research community in much the same way as the Magnet Lab at FSU and the research vessels assigned to the Florida Institute of Oceanography.

Community and Business Engagement

Conferences will bring together researchers and students from a range of institutions and think-tanks to counter threats of cybercrime. Internships through the center will provide students with real-world, hands-on experiences and help students begin shaping their professional networks. The FCC will work with school boards and teachers in grades 5-12 to raise students' understanding of security risks in social media and online activities.

USF is already developing strong ties to statewide and national organizations to advance Florida's cybersecurity reputation, including Workforce Florida, the Florida Department of Law Enforcement, Enterprise Florida, the Florida I-4 High-Tech Corridor Council, local and state chambers of commerce and economic development councils, research firms such as Draper and SRI International, Department of Defense commands, the Maryland Cybersecurity Center, the National Cyber Partnership, and NSA Centers of Academic Excellence.

The National Cyber Partnership (NCP), based in Tampa Bay with USF as a founding partner, is a not-for-profit organization with the following objectives:

- Provide information and various resources to cyber-related industries, educational institutions and government, including the military, and the general public,
- Develop a deep understanding of issues involving both public and private sector benefits from cybersecurity enterprises, R&D, education, training and other related activities, and
- Obtain bi-partisan federal, state and local support for the purposes and goals of NCP.

USF has signed a Memorandum of Understanding with NCP with the intent to enter into a strategic partnership. The partnership is expected to help the FCC achieve national recognition and extend its reach to the entire nation.

USF has also entered into agreements with other private cybersecurity service providers based in Florida, including Crystal Clear Technologies, a company specializing in the development of secure cybersecurity facilities like the SCIF described above; and the International Information Systems Security Certification Consortium, Inc. (ICS2), the provider of the gold-standard in cybersecurity industry certifications, the Certified Information Systems Security Professional certification (CISSP). In the past two years alone, the number of jobs requiring the CISSP jumped from about 19,000 to nearly 30,000, according to Computerworld.

Proposed budget summary

Meaningful and robust achievement of the FCC's goals, as identified by the 2013 Legislature and supported by Gov. Rick Scott, and branding Florida as "the Cyber State," ready and willing to partner with defense and private sector organizations, will require investment in both operating and capital resources.

Trillions of dollars in private sector and national defense funds will be spent on cybersecurity initiatives in the next quarter-century. A small investment of Florida taxpayer funds will help draw those investment dollars to Florida, making for a good state investment, much the same way that this state's economic future was shaped tremendously by the investments locating MacDill AFB, Eglin AFB, NAS Pensacola, NAS Jacksonville, and other major military installations in Florida in the last half-century.

The proposed budget positions Florida as a national leader in the cybersecurity field. Given the high stakes, the fierce competition from other states, and limited state resources, this conservative budget is intended to provide the largest return on investment, brand Florida long-term as the state for cyber business, and make concrete and immediate job gains in the field.

Operating

Recurring operations of the FCC and associated programs will be funded in the following ways:

(1) Reinvestment of recurring USF resources resulting from termination and/or suspension of low-demand, non-strategic degree programs. During 2013, USF terminated 17 degree programs and placed a further 10 programs on inactive status. Further terminations/suspensions are expected in 2014. The (re)allocation of faculty and staff resources to cybersecurity-related programs in business, engineering, information technology and the iSchool is expected to amount to approximately \$2.5 million in repurposed resources following multi-year teachout and program closures.

(2) As host university, USF will provide institutional operating support for the FCC, including, but not limited to: Auditing and Compliance, Business & Finance, Facility Planning & Design, Human Resources, Information Technology, Legal Services, Patents and Licensing, Payroll, Purchasing, Safety and Security, and Sponsored Programs/IRB. The value of cost-sharing to the FCC is to be determined.

(3) A state investment in the Florida Center for Cybersecurity could be most efficiently accomplished in three targeted phases.

■ Phase I: \$7.1 million to establish the FCC at USF, which includes recruiting a nationally-recognized leader and technical support team with the requisite clearance. Attracting world-class talent to Florida (including national and international award winners and members of the National Academy of Sciences and National Academy of Engineering) will be essential for (a) expanding existing and delivering new online degree, certificate, and professional certification programs, in partnership with Florida businesses to rapidly accelerate workforce development, (b) building a coordinated statewide cybersecurity network, (c) coordinating and capitalizing on university-based talent pool to successfully compete for federal and industry funding for cybersecurity research, and (d) promoting cybersecurity education and consumer protection programs for Floridians and Florida companies through public information and workshops.

■ Phase II: \$5 million to expand and accelerate capacity for education and training of the high-skilled, high-paid cybersecurity workforce through increasing access to affordable degree, certificate, and professional certification programs; Extend the seed/matching-grant program for Florida's universities and research entities to yield strategic returns on investment through growing federal and industry R&D expenditures, patents and licensing revenues, startup companies, etc.

Mission

■ Phase III: \$4 million to create satellite nodes of the Florida Cybersecurity Network in selected markets—similar to Florida’s Small Business Development Network— in partnership with State University System institutions to ensure that the growing needs of cybersecurity education and training, research, and consulting outreach for Florida companies are met.

(4) Business memberships and contracts associated with corporate access to cybersecurity information, workforce development, consulting, risk assessment and mitigation, business continuity and disaster recovery will reach \$2 million or more annually.

Total USF and corporate contribution to operating funding: \$4.5 million-plus

Total recurring operating funding request from the state: \$16.1 million

Capital

Capital needs will be phased-in over time. The highest and most immediate priority is the construction of a sensitive compartmentalized information facility, or SCIF, that will support classified/top secret research work for the defense, business and industry sectors. Most importantly, it will provide access for faculty and students, with clearance, from across the state to secure research and training facilities, a prerequisite for competitive federal research funding. The first phase, projected (by Crystal Clear Technologies, Inc., based in Clearwater, Florida) at 10,000 GSF and \$10 million, will be essential to assuring Florida’s research competitiveness with other states.

While existing classroom and office space can be re-purposed in the short-term to support significantly increased instructional/learning needs, and while recognizing that a growing portion of the curriculum will be delivered online, the eventual need for secure active learning laboratories/classrooms, auditorium and office space, along with secure data storage, increase the new space needs to approximately 40,000 GSF (including the SCIF) of State University System-shared space at a total cost of \$30.3 million.

Total non-recurring capital funding request from the state: \$30.3 M (phased-in) +PO&M

Organization

(Modeled, in part, after the Florida Institute of Oceanography)

As host institution, the USF Board of Trustees will provide fiscal and management oversight of the Florida Center for Cybersecurity. The specific purpose, bylaws, membership (full, partners, affiliates, associates etc.), goals, performance metrics and operating procedures will be established at the point of creation with input from all FCC partners.

The FCC will be most closely guided by its Higher Education Advisory Council and Community Advisory Board.

Higher Education Advisory Council

The FCC Higher Education Advisory Council includes representatives nominated by each institution of the State University System to help shape the FCC's work plan. The Advisory Council includes representatives of the Independent Colleges and Universities of Florida (ICUF), the Florida College System, and independent research groups in Florida (e.g. Draper, SRI).

Chair	TBD, Executive Director, FCC
FAMU	Deidre W. Evans, Associate Professor Computer and Information Sciences
FAU	Spyros Magliveras, Professor, Mathematical Sciences
FGCU	Robert Totterdale, Professor, Information Systems
FIU	Geoff Smith, Associate Professor, Computing and Information Sciences
FPU	Rick Maxey, Director, Government Relations
FSU	Mike Russo, Director, Information Security and Privacy
NCF	Ryan Noble, Chief Information Officer
UCF	Ross Hinkle, Vice Provost
UF	Elias Eldayrie, Vice President and Chief Information Officer
UNF	O. Patrick Kreidl, Associate Professor, Electrical Engineering
USF	Randy Borum, Professor, School of Information
UWF	Pam Northrup, Associate Vice Provost for Academic Innovation
ICUF	TBD
FCS	TBD
Research	TBD
Ex Officio	Sri Sridharan, Managing Director, USF Cybersecurity Initiative

Community Advisory Board

Representing a balance of counsel from senior leadership in business and industry, and the academy, the FCC Community Advisory Board will provide strategic direction for the Center.

Chair	Provost & Executive Vice President, USF (host university), or designee
Community	Banking & Finance (Florida)
Community	Business/Technology (Florida)
Community	Defense (Florida-based)
Community	Healthcare (Florida)
Community	Transportation & Utilities (Florida)
Community	(National)
Academic	(Florida)
Academic	(National)
Academic	(National)
Ex-Officio	Executive Director, FCC

Conclusion

Florida can and should seize the opportunity to become the nation's cyber state. It is an endeavor that will enhance the state's workforce and economy, spur community and business engagement, prepare students and returning veterans for high-demand and high-paying jobs, and attract new companies to Florida. An investment in the Florida Center for Cybersecurity will produce wide-reaching benefits, both in the short-term and for generations to come.

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Appendix

Appendix A: Curriculum plan

The interdisciplinary master's degree and certificate programs offer four degree concentrations: Cyber Fundamentals (CF), Cyber Intelligence (CI), Cybercrime (CC), and Information Assurance (IA). The 30-credit program for the master's degree includes four core courses required for all concentrations, plus individualized courses per concentration:

Core courses

CNT 5004 Data Communications /Network

This course describes the components of IT infrastructures and their interactions. Specific topics include Physical layer & data link layer/ Ethernet, Network layer/ IP & Transport layer/ TCP, Application layer & support services, Routing & subnetting, WAN technologies, Wireless & phone networks, and Network security and managerial issues. The exchange of information between computer applications is called Business Data Communications (DataComm). Datacomm technologies provide the underlying plumbing that enables computer applications to access resources on remote computers. The primary goal of this course is to answer the question "How does the IT infrastructure work?" A big part of it is, "How do computers talk to each other?"

Specific topics include:

Physical layer & data link layer/ Ethernet
 Network layer/ IP & Transport layer/ TCP
 Application layer & support services
 Routing & subnetting
 WAN technologies
 Wireless & phone networks
 Network security & managerial issues

CIS 5362 Cryptography

This course covers Cryptography context (design criteria, generic attacks), Block ciphers, Hash functions, Message authentication codes, Secure channel, Key negotiation, Prime numbers, Diffie-Hellman, RSA, Key negotiation, Key management (Kerberos), PKI, and Storing secrets.

For this class, the syllabus is likely to be built around the following content (based on the TOC in the Schneier Cryptography Engineering book):
 Cryptography context (design criteria, generic attacks)

- Block ciphers
- Hash functions
- Message authentication codes
- Secure channel
- Key negotiation
- Prime numbers
- Diffie-Hellman
- RSA
- Key negotiation
- Key management (Kerberos)
- PKI
- Storing secrets

ISM 6328 Basics of Information Security and Risk Management

The course will include class presentations and extensive hands-on projects on implementing the common IT controls such as access control lists (ACLs), firewalls, network scanning, STIG (Security Technical Implementation Guidelines), identifying software errors and documenting some key IT General Controls. Required reports will help students improve their writing and documentation skills.

A good class combines teaching a trade and thinking about the trade. This class has an approximately 40-60 balance between skills acquisition and conceptual understanding.

Specifically, the course objectives are to:

- introduce the importance of information security and related business concerns
- make students aware of the major categories of information security threats
- make students aware of the common information security controls

Appendix A

- enable students to implement the basic information security controls
- introduce students to the important legal provisions regarding information security
- make students aware of the methodological implications for information security arising from these legal provisions
- provide students with an understanding of the standard methodologies for complying with legal requirements for IT general controls
- provide a basic understanding of IT risk management in organizations

ISM 6930 Decision Processes for Business Continuity and Disaster Recovery

This course covers topics such as disaster recovery and business continuity following extreme events. The course will also present methods for decision making in such scenarios, with an emphasis on risk assessment and management. The course will also discuss the guidelines of the U.S. Department of Commerce, National Institute of Standards and Technology (NIST)'s Computer Security Incident Handling Guide.

Course contents will include:

- NIST incident handling process
- Incident response team
- Communication management with stakeholders during incidents
- Compliance with legal requirements

CF concentration

EEL 6764 Computer Architecture

CIS 6930 (special topics) Computer Networks, Fundamental principles and analysis

CIS 6930 (special topics) Security & Privacy

CI concentration

LIS 5937 Visual Information Analytics

ENC 6261 Analytic Communication

CCJ 6074 Advanced Intelligence Analytic Methods

INR 5365 Core Concepts in Intelligence

DSC 6600 Cyber intelligence

LIS 6758 Information Strategy & Decision Making

CC concentration

CJE 6688 Cybercrime and Criminal Justice

CJE 6623 Digital Evidence Recognition

CJE 6624 Introduction to Digital Evidence

CJE 6625 Network Forensic Criminal

CJE 6626 Digital Forensic Criminal Investigations

IA concentration

ISM 6145 Seminar on Software Testing

ISM 6125 Software Architecture

ISM 6124 Advanced Systems Analysis and Design

ISM 6316 Project Management

ISM 6218 Advanced Database Administration

Appendix A

The FCC will draw from several of USF's colleges and centers, as well as area experts:

Arts and Sciences

Relational Communication
Organizational Communication
Economics
Geosciences

Behavioral and Community Sciences

Communication Sciences and Disorders
Criminology
Louis de la Parte Florida Mental Health Inst.

Business

Information Systems / Decision Sciences
National and Competitive Intelligence

Education

Educational Leadership and Policy Studies
Educational Measurement and Research
Psychological and Social Foundations

Engineering

Chemical and Biomedical Engineering
Civil and Environmental Engineering
Computer Science and Engineering
Industrial and Management Systems
Information Technology

Global Sustainability

Public Health

Environmental and Occupational Health
Epidemiology and Biostatistics
Global Health
Health Policy and Management

Office of Research and Innovation

Center for Urban Transportation

Appendix B

Appendix B: Workforce output projections

USF's projected addition to workforce development in cybersecurity includes increasing the number of new professional cybersecurity certifications to be awarded annually (550, each with earning potentials of approximately \$100,000) by USF Innovative Education through online and face-to-face courses, beginning in spring of 2014.

■ Increasing the number of new professional cybersecurity certifications to be awarded annually (550, each with earning potentials of approximately \$100,000) by USF Innovative Education through online and face-to-face courses, beginning in spring of 2014:

- +100 Certified Information Systems Security Professional (CISSP)
- +50 Systems Security Certification Practitioner (SSCP)
- +50 Certified Authorization Professional (CAP)
- +50 Certified Secure Software Lifecycle Professional (CSSLP)
- +50 Information Systems Security Architecture Professional (CISSP-ISSAP)
- +50 Information Systems Security Engineering Professional (CISSP-ISSEP)
- +50 Information Systems Security Management Professional (CISSP-ISSMP)
- +50 CompTIA Security
- +50 CompTIA Offering – CASP
- +50 Cisco Certified Network Associate (CCNA) Security

■ Increasing the number of new academic certificates/concentrations to be delivered online and face-to-face and to be awarded by USF annually in cybersecurity-related fields, beginning in 2014-15:

- +475 undergraduate certificates/concentrations
- +270 graduate certificates/concentrations

USF's proposed new certificate programs:

Computer Security, Cyberbehavior, Cyberbullying, Cybercrime, Cybersecurity, Cybersecurity Compliance and Risk Management, Cybersecurity in Counseling & Higher Education, Electronic Medical Records Security, Encryption & Information Security, Information Assurance for Healthcare, Information Assurance for Financial Services, Information Assurance for Energy & Utilities, Medical Device Security.

■ Increasing the number of projected additional degrees to be awarded by USF (by 2017-18) in cybersecurity-related fields over the number of degrees awarded in 2011-12:

- +867 baccalaureate degrees
- +215 Master's degrees
- +50 doctoral degrees

Appendix B

USF Interdisciplinary

Master of Science degree in *Cybersecurity* (a new, state-of-the-art program to be implemented in fall of 2014)

Master's (online):	CIP Code	2014-15 (proj)	2017-18
	43.0303	120	300 (+100%)

New :

Graduate Certificate in *Cybersecurity* with concentrations in *Cyber Fundamentals*, *Cyber Intelligence*, *Cybercrime* and *Information Assurance*:

50 annually

College of Engineering

(accredited by ABET)

Computer Science & Engineering, Engineering Management, Industrial & Manufacturing Engineering, and Information Technology.

Baccalaureate:	CIP Codes	2011-12	2017-18
	11.0101/11.1013/11.0401/14.0901/ 14.3501	292	336 (+15%)

Master's:	CIP Codes	2011-12	2017-18
	11.0501/14.0901/14.3501/14.0501/ 13.3502	155	194 (+25%)

Doctoral:	CIP Codes	2011-12	2017-18
	14.0901/14.3051/14.0501	16	24 (+50%)

New:

Baccalaureate Certificate/Concentration in *Computer Security*:

50 annually

Graduate Certificate/Concentration in *Computer Security*:

25 annually

College of Business

(accredited by AACSB)

Accounting, Business Economics, Entrepreneurship in Applied Technologies, Finance, Management Information Systems, Management, and Marketing.

Baccalaureate:	CIP Codes	2011-12	2017-18
	52.0101/52.0201/52.0301/52.0601/ 52.0801/52.1201/52.1401	1,787	2,055 (+15%)

Master's:	CIP Codes	2011-12	2017-18
	52.0101/52.0201/52.0301/52.0701/ 52.0801/52.1201/52.1401	339	424 (+25%)

Doctoral:	CIP Codes	2011-12	2017-18
	52.0201	6	12 (+100%)

New:

Baccalaureate Certificate/Concentrations in *Information Assurance for Healthcare*; *Information Assurance for Financial Services*; and *Information Assurance for Energy & Utilities* :

150 annually

Graduate Certificate/Concentration in *Cybersecurity Compliance and Risk Management*:

50 annually

Appendix B

USF Health

Bioinformatics, Biotechnology, Health Informatics, and Medical Technology.

Baccalaureate:	CIP Codes	2011-12	2017-18
	51.1005	10	50 (+400%)
Master's:	CIP Codes	2011-12	2017-18
	51.2706 (new)/26.1103/26.1201	17	51 (+200%)

New:

Graduate Certificate in <i>Medical Device Security</i> :	10 annually
Graduate Certificate in <i>Electronic Medical Records Security</i> :	10 annually

College of Arts & Sciences

Library/Information Studies (Cyberintelligence, Strategic Intelligence, Visual Analytics & Communication), Health Information Technology, Mathematics, and Psychology.

Baccalaureate:	CIP Codes	2011-12	2017-18
	27.0101/42.0101/11.0103 (new)	1,125	1,294 (+15%)
Master's:	CIP Codes	2011-12	2017-18
	25.0101/27.0101/42.0101/11.0403 (new)	146	183 (+25%)
Doctoral:	CIP Codes	2011-12	2017-18
	27.0101/42.0101	23	46 (+100%)

New:

Baccalaureate Certificate/Concentration in <i>Cyberbehavior</i> (Industrial & Organizational Psychology):	100 annually
Baccalaureate Certificate/Concentration in <i>Encryption and Information Security</i> (Mathematics & Statistics)	50 annually
Graduate Certificate/Concentration in <i>Cyberbehavior</i> (Industrial & Organizational Psychology):	25 annually
Graduate Certificate/Concentration in <i>Encryption and Information Security</i> (Mathematics & Statistics)	25 annually

College of Behavioral & Community Sciences

Criminology, and Criminal Justice Administration.

Baccalaureate:	CIP Codes	2011-12	2017-18
	45.0401	461	507 (+10%)
Master's:	CIP Codes	2011-12	2017-18
	45.0401/43.0103	40	60 (+50%)
Doctoral:	CIP Codes	2011-12	2017-18
	45.0401	5	10 (+100%)

New:

Baccalaureate Certificate/Concentration in <i>Cybercrime</i> :	100 annually
Graduate Certificate/Concentration in <i>Cybercrime</i> :	25 annually

Appendix B

College of Education

(Accredited by NCATE)

New:

Baccalaureate Certificate/Concentration in <i>Cyberbullying</i> :	25 annually
Graduate Certificate/Concentration in <i>Cyberbullying</i> :	25 annually
Graduate Certificate/Concentration in <i>Cybersecurity in Counseling & Higher Education</i> :	25 annually

Appendix C Existing Cybersecurity Education Efforts

Florida Universities

School	Bachelor's	Master's	CS Center/Institute
Embry Riddle University	Cyber Intelligence and Security, Software Engineering with Cybersecurity Emphasis, Bachelor of Science in Technical Management Information Security,	-	Department of Global Security and Intelligence Studies (Daytona, FL)
Florida Atlantic University	-	Information Technology & Management	Center for Cryptology and Information Security
Florida Institute of Technology	-	Information Technology--Cybersecurity	-
Florida International University	-	Management Information Systems, Information Technology, Telecommunications and Networking, Computer Science	-
Florida State University	-	Computer Criminology, Computer Network and System Administration, Computer Science	Center for Security & Assurance in Information Technology
Keiser University	Cyber Forensics/Information Security	Information Security	-
Nova Southeastern University	Computer Information Systems, Computer Science, Information Technology	Information Security, Computer Information Systems, Computer Science, Information Technology, Management Information Systems	Secure and Robust Distributed Systems Laboratory
Rasmussen College	Cyber Security	-	-
University of Central Florida	-	Digital Forensics	-
University of Florida	Computer Science/Engineering	Computer Science/Engineering	-

Research Areas	Scholarships/Grants	Certifications/Minors	NSA Designation	Corporate/Governmental Partnerships
Emphasis is placed on effective communications, quantitative skills, global awareness, social responsibility, ethical and legal grounding, information technology, critical thinking skills, teamwork, computer and network functional skills, broad cyber industry familiarity, and a commitment to lifelong learning.	-	Security and Intelligence Minor, The Security and Intelligence Certificate of Completion, Undergraduate Certificate in Information Assurance	-	FAA, NASA, NIKSUN, IEEE
Cryptology, Cyber Crime, Quantum and Post-quantum Cryptology, Secure Systems, Social Perspectives of Information Security	Funding provided by the National Security Agency and the Department of Homeland Security	Information Security Minor and Certificate (offered in the College of Business)	CAE/R	National Security Agency, Department of Homeland Security
Computer and information security, cryptography, application and operating system security	-	Graduate Certificate in Information Assurance and Cybersecurity (online)	-	-
Cybersecurity test technology program, developing technology to prevent cyberattacks	DoD recently provided funding for cyberspace research	-	-	Department of Defense's Test Resource Management Center
Secure Software, Locking, Intrusion Detection Systems, Honeynets, Computer Forensics, RFID, Securing Cyber-Physical Systems, Security and Privacy in Database and Data Management, Network Security	Scholarship funding offered to graduate students through the National Science Foundation and the Department of Homeland Security	NSTISSI-4011, National Training Standard for Information Systems Security (INFOSEC) Professionals, and CNSSI-4014, Information Assurance Training Standard for Information Systems Security Officers (ISSO)	CAE/IAE, CAE/R	National Security Agency, Department of Homeland Security, National Science Foundation
-	-	-	-	-
Information assurance research, support of security, reliability, availability, and performance of computer and information systems in distributed environments, study of enterprise, grid, wireless, ad-hoc and ubiquitous systems	-	Information Assurance/Security Minor, Graduate Certificate in Information Security Management, Graduate Certificate in Information System Security	CAE/IAE	National Security Agency, Department of Homeland Security
-	-	CompTIA® A+ Essentials, CompTIA® A+ Practical Application, CompTIA® Linux+ Powered by LPI, CompTIA® Network+, CompTIA® Security+, Microsoft® Exchange Server, Microsoft® Windows Workstation, Windows® Applications Development with Microsoft® .NET Framework, Windows® Server Active Directory, Windows® Server Network Infrastructure, CIW® Javascript Specialist, Interconnecting Cisco® Networking Devices	-	-
-	-	Graduate Certificate in Computer Forensics	-	-
-	-	-	-	-

Appendix C Existing Cybersecurity Education Efforts

National Universities

School	Bachelor's	Master's	CS Center/Institute
Carnegie Mellon University (They have a four-pronged Cybersecurity Strategic Initiative focusing on Research, Outreach, Speakers, and Partnership. Education offered through their CyLab)	-	Information Security Technology and Management, Information Technology, Information Networking, Information Technology-Privacy Engineering, Information Security Policy and Management, Information Technology and Information Security, Executive Masters in Information Assurance, Information Technology and Mobility, Information Technology and Software Management	CyLab, Software Engineering Institute, CERT Program (workshops and training focused on improving network security, responding to and analyzing security incidents, and creating and managing computer security incident response teams)
Embry Riddle University	Cyber Intelligence and Security, Software Engineering with Cybersecurity Emphasis, Bachelor of Science in Technical Management Information Security,	-	Department of Global Security and Intelligence Studies (Daytona, FL)
George Mason University	Information Technology with concentration in Information Security and Network Administration	Information Security, Information Security and Assurance, Computer Engineering with concentration in Network and Systems Security, Management of Secure Information Systems	Center for Secure Information Systems
George Washington University	Computer Science	Cybersecurity, Computer Science, Professional Studies in Security and Safety Leadership (with a focus in Strategic Cybersecurity Enforcement), Cybersecurity in Computer Science, Executive MBA in Cybersecurity, Master of Laws in National Security Law	Cyber Security Policy and Research Institute
Iowa State University	Computer Engineering with specialization in Information Assurance	Information Assurance, Engineering in Information Assurance	Information Assurance Center, Power Infrastructure Cybersecurity Laboratory
Massachusetts Institute of Technology	Electrical Engineering and Computer Science	Electrical Engineering and Computer Science	Lincoln Laboratory
Mississippi State University	Computer Science, Software Engineering, Computer Engineering	Computer Science	Center for Computer Security and Research

Research Areas	Scholarships/Grants	Certifications/Minors	NSA Designation	Corporate/Governmental Partnerships
Trustworthy computing platforms and devices, next-generation secure and available networks, mobility, security of cyber-physical systems, secure home computing, survivable distributed systems and outsourced services, privacy protection, threat analysis and modeling, software security, cryptography, usable privacy and security, threat prediction and response, business risk analysis and economic implications	Scholarship funding offered to graduate students through the National Science Foundation and the Department of Homeland Security. US Department of Defense funds the Software Engineering Institute and the CERT Program.	-	CAE/IAE, CAE/R	Raytheon, Honeywell, Facebook, General Motors, Lockheed Martin, Northrop Grumman, InterDigital, Alcatel-Lucent, Core Security Technologies
Emphasis is placed on effective communications, quantitative skills, global awareness, social responsibility, ethical and legal grounding, information technology, critical thinking skills, teamwork, computer and network functional skills, broad cyber industry familiarity, and a commitment to lifelong learning.	-	Security and Intelligence Minor, The Security and Intelligence Certificate of Completion, Undergraduate Certificate in Information Assurance	-	FAA, NASA, NIKSUN, IEEE
Network attack modeling, analysis, and visualization, virtualization for security, protection against malicious code, cyber situational awareness, secure composable systems, privacy in location-based applications, automated intrusion recovery, secure data centers	Information Assurance Scholarship Program funded by the US Department of Defense	Applied Cyber Security Graduate Certificates	CAE/IAE, CAE/R	NSA, National Science Foundation, Air Force Research Laboratory, Air Force Office of Scientific Research, National Institute of Standards and Technology, DCS Corp, Intelligence Advanced Research Projects Activity
Computer network security and information assurance, computer system and network privacy, electronic commerce security, security mechanisms related to intellectual property, e-government security, internet regulatory issues, computer ethics and social impact of technology, information assurance and computer security education and workforce development	Scholarships and grants are funded by the Defense Department, the Department of Homeland Security, and the National Science Foundation (administered over \$8 million in grants since 2002)	Computer Security and Information Assurance Graduate Certificate	CAE/IAE, CAE/R	National Security Agency, Department of Homeland Security, Department of Defense, National Science Foundation
Forensics, intrusion detection, network modeling, wireless communications, information/cyber warfare, artificial intelligence and data mining, foreign policy, identity theft, cryptography. Cyber-physical systems framework for risk modeling and mitigation of cyber-attacks on the power grid that accounts for dynamics of the physical system, as well as the operational aspects of the cyber-based control network.	National Science Foundation funds Iowa State's Scholarship for Service program	Graduate Certificate in Information Assurance	CAE/IAE, CAE/R	National Security Agency, National Science Foundation
Development of prototype components and systems for computer network security	Federally funded (it is a Department of Defense Research and Development Laboratory)	Short Programs Professional Education on Applied Cyber Security, Short Programs Professional Education on Cryptography and Computer Security	-	Maryland Cybersecurity Center, Department of Defense
Artificial Intelligence, Computer Crime and Forensics, Cryptography and Information Security	Scholarships funded through the Department of Defense and the National Science Foundation	Information Assurance Professional Certificate (INFOSEC Professional)	CAE/IAE, CAE/R	National Science Foundation, Army Research Laboratory, Cisco, Dexisive Inc

Appendix C Existing Cybersecurity Education Efforts

National Universities

School	Bachelor's	Master's	CS Center/Institute
Pennsylvania State University	Security and Risk Analysis-Information and Cyber Security (online)	Information Sciences and Technology	Penn State Cyber Security Lab
Syracuse University	-	Cybersecurity Law and Policy Course	Institute for National Security and Counterterrorism
University of Maryland-College Park	Computer Science with a Cybersecurity specialization	Computer Science/Electrical and Computer Engineering, Engineering in Cybersecurity	Maryland Cybersecurity Center
University of Maryland-University College	Cybersecurity, Computer Networks and Security	Cybersecurity, Cybersecurity Policy, Digital Forensics and Cyber Investigation, Information Technology and Information Assurance	-
University of Southern California	-	Computer Science with Specialization in Computer Security, Cyber Security	Center for Computer Systems Security
University of Texas-San Antonio	Infrastructure Assurance, Computer Science with Computer and Information Security concentration	Information Technology (also available with Information Assurance Concentration), MBA Information Assurance concentration, MBA Information Systems concentration, Computer Science with Computer and Information Security concentration	Center for Infrastructure Assurance and Security (which offers cyber security events, training classes, exercises, and competitions), Institute for Cyber Security (conducts basic and applied research in partnership with academia, government and industry), Center for Education and Research in Information and Infrastructure Security (conducts high impact research in information assurance and security and educates the cybersecurity workforce needed now and in the future. The center's research objective is to offer leading edge solutions that will help to solve cybersecurity problems of national scope and importance)
University of Washington	-	Cybersecurity and Leadership (Online), Cyber Security Engineering, Information Management, Information Assurance	Center for Information Assurance and Cybersecurity

Research Areas	Scholarships/Grants	Certifications/Minors	NSA Designation	Corporate/Governmental Partnerships
Malware analysis, systems security in cloud computing, holistic security of smartphone systems, secure lean software, self-protecting data centers, computer-aided human centric cyber situation awareness, resilient and self-healing software systems and networks, malware and software security, wireless network security, understanding and assuring information privacy; identity management, access control, trust computing, enterprise "health care" models, on-the-fly "surgery" techniques, cyber security situational awareness information security economics, policies and security management, and social implications of security.	Professors have been awarded grants by the National Science Foundation to continue their research	Post-baccalaureate Certificate in Information Systems Security (online)	CAE/IAE, CAE/R	National Security Agency, National Science Foundation, Cisco, HP, Department of Homeland Security, Air Force Research Laboratory, Department of Defense
Law, National Security & Counterterrorism, Security Governance, New Frontiers in Science, Cyber, & Technology, Homeland Security	-	Certificate of Advanced Studies in Systems Assurance, Certificate of Advanced Studies in Security Studies	CAE/IAE, CAE/R	US Department of Homeland Security, Department of Defense, Booz Allen Hamilton, RAND Corporation, Dyn-Corp International, National Science Foundation
Wireless and network security, secure software, cyber supply chain security, privacy in social networks, cybersecurity policy, cryptography, attacker behavioral analysis, health care IT, multimedia forensics, the economics of cybersecurity	Grants funded by the National Science Foundation	Graduate Certificate in Engineering in Cybersecurity, Graduate Certificate in Professional Studies in Cybersecurity Leadership	CAE/R	Booz Allen Hamilton, Northrop Grumman, Sourcefire, Lockheed Martin, SAIC, Lincoln Laboratory, Google
-	UMUC hosts an annual gala to raise funds for Cybersecurity student scholarships. Attendants include a broad range of industry leaders and members of the Maryland Commission on Cybersecurity Innovation and Excellence.	Cybersecurity Policy, Cybersecurity Technology, Foundations of Cybersecurity, Homeland Security Management, Information Assurance, Minor in Cybersecurity	CAE/IAE	NSA, Department of Homeland Security, Booz Allen Hamilton, AT&T, Cisco, Dell, Northrop Grumman, Microsoft, Lockheed Martin, Google, SAIC, & more.
Technologies supporting confidentiality, integrity, resiliency, privacy, intrusion detection and response, and survivability of critical infrastructure	-	Minor in Applied Computer Security, Specialization in Cyber Security, Specialization in Digital Forensics	CAE/R	US Department of Homeland Security, National Security Agency
Digital forensics, information security management and strategy, applied network and information systems security, and the economics and psychology of information security, botnet analysis and defense, trustworthy cloud computing, secure information sharing, social computing security, infrastructure assurance, assured data provenance, privacy policies and enforcement.	The ICS was established through a grant provided by the Texas Emerging Technology Fund. Research is also funded by the NSF and the Department of Homeland Security.	Minor in Digital Forensics, Minor in Infrastructure Assurance and Forensics	CAE/IAE	National Security Agency, National Science Foundation, Department of Homeland Security, Texas Emerging Technology Fund, Cisco, The University of Texas System, Symantec, Dell, BAE Systems
Wireless network infrastructure, Internet security, and commercial/industrial applications, systems engineering in information assurance, developing strategies to recruit, hire and retain cybersecurity employees, next generation honeypots	Part of the Scholarship for Service funded by the National Science Foundation	Information Systems Security Certificate, Information Security and Risk Management Certificate, Network Engineering Certificate, Digital Forensics Certificate	CAE/IAE, CAE/R	Microsoft, Boeing, Accuvant, Department of Homeland Security, NSA

Appendix D

Appendix D: Common Definitions in Cybersecurity

Account Harvesting – collecting or “harvesting” of all the authentic account names on a system

Accessibility – the degree to which a computer or information system is available

Advanced Windows Security – system Administration practices that ensure security of Windows operating systems, including permissions, networking, file sharing, and more

Anonymous – a loosely affiliated collective of “hacktivists,” typically motivated socially and politically, who engage in cyberattacks against corporate and government targets through web site disruptions and defacements, often resulting in the theft and release of sensitive or secured documents or personal information

Application – software that performs programmed functions for a user. Applications can support word processing, spreadsheet development, graphic creation, presentation creation and database tasks

Backbone – the backbone is the “skeleton” of the Internet; it is a high-speed fiber optic network of main lines that interconnect around the world at various places or Network Access Points (NAPs)

Backdoor – a backdoor can be created by the exploitation of a vulnerability, such as a programming error or malware, and allows access into a device without proper authentication

Bandwidth – the capacity of a communication channel to pass data during a certain period of time

Biometrics – access controlled by physical characteristics

Bit – the smallest unit measure of information storage, a term derived from “binary digit”

Black Hat (Hacker) – A hacker with malicious intent who accesses computer networks without proper authority, legally or otherwise; slang for computer criminal

Blacklisting – blocking of harmful websites, often done by parents or employees with the aid of software programs that block with specified or selected criteria

Blended Threat – combined cyberattack methods that are used to increase damage during a computer network attack

Botnet – a controlled network of a large number of computers infected with Trojan horse viruses by cybercriminals often used to implement a denial of service attack

Botmaster(s) – a person or group of people in control of a botnet and whose location is usually difficult to determine

Browser – used to view online content, a browser is a software program that can retrieve and display information and store cookies

Buffer Overflow – overloading of a temporary data storage area so data overflows into adjacent buffers and corrupts them

BYOD (Bring Your Own Device) – acronym used to describe a policy that allows personal mobile devices within range of a wireless network, usually a corporate or private network, and that allows those users access

Cache – high-speed storage mechanism for memory or disks; pronounced “cash”

Cryptography – science and practice of securing with algorithms, particularly for third-party communications

Ciphertext – encrypted form of a message being transferred

Client – a machine that uses and requests service from another system machine such as a “server”

Computer Emergency Response Team (CERT) – organization that provides incident response services to cyberattack victims and provides information about known vulnerabilities and threats as well as ways to stay safe online

Confidentiality – ensuring that information or data on a system is not accessed by unauthorized users

Cookie – data exchanged between an HTTP server and browser that is then stored on a client for later server retrieval

Denial of Service (DoS) – prevention of authorized access or halting of system operations or system functions

Digital Forensics – branch of forensic science including the recovery and investigation of digital media, often legal evidence, found in digital devices and digital records

Distributed denial of service (DDoS) – multiple systems, such as a botnet, for which operation and system functions have been halted

Domain Hijacking – an attacker blocks access to the DNS server and replaces information to gain access and take over that domain

Domain Name System (DNS) – the way domain names on the Internet are translated into Internet Protocol addresses; the named form of an Internet address

Doxing – an urban term used to describe searching for personally identifiable information by using online documents

Firewall – a software or hardware component that prevents unauthorized access to or modification of a system

Flooding – providing more information than a system can handle to ultimately cause failure of that system

Grey Hat (Hacker) – hacker operating without malicious intent but is prepared to operate against legal or ethical boundaries

Hacking – accessing computer networks, legally or otherwise; heavily modify the software or hardware of one’s own computer system; slang for computer crime

Appendix D

Hactivism – hacking in the name of social or political protest or to facilitate change for a cause

Hardening – identifying and fixing system vulnerabilities

Honey Pot – a “trap” to detect and thwart a potential cyberattack on a system before exploitation occurs

Identity Management – practices involving the management of identification of individuals and verifying data to grant access with proper permissions

Integrity – assuring that information is accurate and complete

Internet Protocol – method used to send data from one computer to another over the Internet

Intrusion Detection System (IDS) – security management system that gathers and analyzes information on computers or on a network

MAC Address – numerical address that identifies each network device

Malware – software containing malicious code that is usually intended to gain unauthorized access to a computer or system

Man-in-the-Browser – Trojan horse that intercepts and manipulates electronic information over a supposedly secure link

Man-in-the-Middle Attack – similar to the Man-in-the-Browser, but the hacker creates a diversion on the legitimate page that enables him/her to make changes in real time to the information entered by the unsuspecting user

Mobile and Wireless Security – system administration practices that ensure security of mobile and wireless devices, including the cloud, WLAN, and WIFI, and includes encryption methods, authentication, access permissions, and protection

Open source – free licensing and distribution of certain software and applications to promote universal access

Password Cracking – attempt to guess passwords, sometimes with the aid of a cracking program

Password Sniffing – passive wiretapping to gain access to a password on a network

Patch – software update by a vendor intended to fix a known vulnerability

Penetration Testing and Vulnerability Assessment – testing of the external perimeter of a network to determine cyberattacks that could be caused by threats and the exploitation of vulnerabilities

Phishing – attempt to trick an e-mail recipient into disclosing sensitive information by posing as a trusted source

Root – the name of the administrator account on a Linux system

Session Hijacking (Sidejacking) – taking over or duplicating an established session

Sniffing – another name for passive wiretapping

Social Engineering – using social techniques, such as lying, blackmailing or impersonating, to trick another person with the ultimate goal of gaining otherwise unauthorized access to an information system

Spoofing –pretending to be an authorized user to gain access to a system

Steganography –hiding a message or data within a file or program

Threat – potential for violation of security, often by exploitation of a vulnerability

Trojan horse – non-self-replicating malware that gains privileged access to the operating system then exploits the computer and allows unauthorized access to the target computer through a backdoor – all while appearing to perform a non-malicious function

Virus – a hidden, self-replicating program usually containing malicious code that cannot run by itself

Vulnerability – part of a system, device, computer, or network that could be exploited by a threat to execute a cyberattack

White Hat (Hacker) – penetration tester responsible for the security of a system

Worm – a program containing malicious code that can replicate over a network and run by itself

Zombie – a compromised computer that will be later used, unbeknown to the owner, to execute an attack

Appendix E

Appendix E: Selected faculty biographies

College of Business

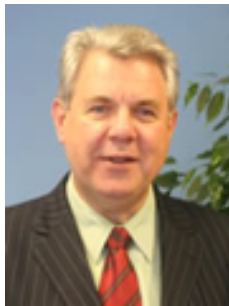


Manish Agrawal, Ph. D.

Associate Professor

Research Interests: Software quality, offshoring and outsourcing, e-commerce, extreme event response, social media analytics, decision fusion

Manish Agrawal teaches courses in business data communications, computer networks, information systems, the development of web applications and information. An associate professor in the Information Systems Decision Sciences Department, Agrawal was the recipient of USF's university-wide award recognizing teaching excellence in 2006. An expert in the areas of software quality, offshoring and outsourcing, and e-commerce, his research interests include extreme event response, social media analytics, decision fusion, software quality. An avid researcher, his work has been published in numerous academic journals, including Management Science, INFORMS Journal on Computing, Journal of Management Information Systems, IEEE Transactions on Software Engineering, Decision Support Systems and the Journal of Organizational Computing and Electronic Commerce. His research and teaching have been funded by the US National Science Foundation, the US Department of Justice, the Indo-US Science and Technology Forum and Sun Microsystems.



Walter Andrusyszyn

Adjunct Professor

Research Interests: Law and diplomacy, intelligence analysis

Walter Andrusyszyn, an adjunct professor, teaches international business courses at the undergraduate level in the College of Business. Andrusyszyn, who began teaching at the University of South Florida in 2007, has an extensive background in both business and government. Temporarily returning to government in 2009, he served as the deputy permanent representative to the North Atlantic Treaty Organization or NATO and shared responsibility in preparing U.S. President Barack Obama's first visit to Europe. He has also served on the White House's National Security Council and held various positions with the Department of State. Andrusyszyn has private sector experience as a manager for a large American company that began operations in Europe in 2003.



Kaushal Chari, MBA, Ph. D.

Chair & Professor

Professor Kaushal Chari serves as chair of the Information Systems & Decision Sciences Department of the College of Business. He currently teaches a course in distributed systems and participates in numerous university committees and research efforts. Chari's research program covers three broad areas: software engineering, business intelligence and distributed systems. He is interested in applying quantitative as well as intelligent techniques to address problems related to IT systems, software development and business process management. Chari's work has been published in a variety of academic journals, including Management Science, Information Systems Research, INFORMS Journal on Computing, and IEEE Transactions on Software Engineering. Chari served as the associate editor of MIS for Interfaces journal from 2002-2010, and as the vice chair of the INFORMS Information Systems Society from 2007 – 2009.



Michael Fountain, MBA, Ph. D.

Director

Michael Fountain holds three faculty appointments at USF, serving as the John & Beverley Grant Endowed Chair in Entrepreneurship, a professor in the College of Engineering, and a professor in the Department of Psychiatry & Behavioral Medicine. He currently serves as founding director of USF's Center for Entrepreneurship and the director for university-wide interdisciplinary entrepreneurship educational programs. Fountain is an expert in creating, financing, and growing biotechnological, medical device, and life science companies. He has founded or cofounded seven new ventures (three later publicly traded companies) and patented and commercialized numerous innovative medical and diagnostic products (including sustained release anti-cancer drugs, genetically engineered diagnostic products for autoimmune diseases, microencapsulated dermatologic products and vaccine products for prevention of human and animal infectious disease). He was a pioneer in the development and application of the

use of phospholipids in micro- and nano-particle technologies for drug encapsulation. Fountain has been instrumental in the development and deploying of entrepreneurial programs on an international level. He has served as an Entrepreneur-in-Residence with the Ewing Marion Kauffman Foundation overseeing strategy, venture capital and private equity, and life sciences entrepreneurship.



Balaji Padmanabhan, Ph. D.

Chair, Information Systems Decision Sciences

Associate Professor

Balaji Padmanabhan is the Anderson Professor of Global Management and an associate professor in the Information Systems Decision Sciences Department. He has created and taught undergraduate, MBA/MS, and doctoral courses in areas related to business/data analytics, computational thinking, and electronic commerce. Padmanabhan's research addresses data analytics for business applications, algorithms for online news recommender systems, management of data analytics in firms, fraud detection in healthcare, analytics in examining service quality and customer churn, behavioral profiling, and pattern discovery. His work has been published in both computer science and information systems journals and conferences including Management Science, Information Systems Research, MIS Quarterly, and INFORMS Journal on Computing. Padmanabhan's professional service includes work as associate

editor and program committee member of several academic journals and conferences. He has published his research in leading outlets in business and computer science. He also works with several firms on technical, strategic and educational issues related to business and data analytics.

College of Engineering



David Armitage

Former Director, Division of Information Technology, College of Engineering, Lakeland, FL

David Armitage is the former Director, Division of Information Technology, College of Engineering, Lakeland, FL, where he was responsible for overall coordination of activities of division, including course scheduling, credentialing faculty for courses, faculty evaluation and program development. Responsible for coordinating the integration of the unit and its academic programs, current and proposed, into the College of Engineering. His research interests include the use of technology and advanced pedagogies to improve computing knowledge transfer to undergraduates, experimental application of electroencephalography to computing education, and Robotics applications.

Appendix E



José L. Zayas-Castro, MBA, Ph. D.

Professor and Associate Dean for Research

Dr. José L. Zayas-Castro is Professor and Associate Dean for Research, College of Engineering at the University of South Florida (USF) in Tampa. For nine and half years he was Chairperson of the Department of Industrial & Management Systems Engineering at the USF. Dr. Zayas-Castro has a B.S. in IE from UPRM and M.S. in Management & Industrial Engineering, MBA, and Ph.D. from Rensselaer Polytechnic Institute. His interests relate to statistical process control, applied modeling, systems integration, business and R & D strategy, innovation and entrepreneurship, cost analysis, technology transfer, assessment, healthcare systems and healthcare delivery, and innovation in engineering education. Dr. Zayas-Castro recent research has emphasized the re- design of processes and products, re-engineering the service sector, particularly healthcare, and the integration of research and engineering education. Examples are: reengineering and modeling healthcare operational systems in healthcare systems, e.g., hospitals and clinics, healthcare decision making in outpatient and inpatient processes, re-engineering of Graduate Medical Education, decision tools for the classification and diagnostic of prostate cancer, product and process developments in medical devices and bio-medical businesses, and the extension and adaptation of the Learning Factory using small scale technology. Dr. Zayas-Castro participates in various advisory and review committees in the National Science Foundation, and has been associated to more than \$9 million in external funding. Dr. Zayas-Castro has more than 40 publications and over 60 presentations.



Lawrence Hall, Ph. D.

Professor

Research Interests: Distributed machine learning, data mining, pattern recognition and integrating AI into image processing, fuzzy logic in pattern recognition, AI and learning

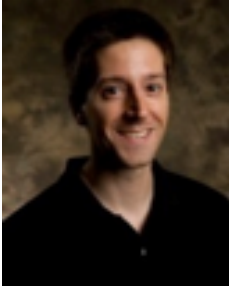
Lawrence Hall is a Professor and Chair of Computer Science and Engineering at University of South Florida. He received his Ph.D. in Computer Science from the Florida State University in 1986 and a B.S. in Applied Mathematics from the Florida Institute of Technology in 1980. He has received funding from the National Science Foundation. He co-edited the 2001 Joint North American Fuzzy Information Processing Society (NAFIPS), IFSA conference proceedings. He was the co-program chair of NAFIPS 2004. He received the IEEE SMC Society Outstanding Contribution Award in 2000. He received an Outstanding Research Achievement Award from the University of South Florida in 2004 and is a past president of NAFIPS. He is currently the president-elect of the SMC Society and the editor-in-chief of the IEEE Transactions on Systems, Man and Cybernetics, Part B. Also, he is associate editor for IEEE Transactions on Fuzzy Systems, International Journal of Intelligent Data Analysis, and International Journal of Approximate Reasoning, and is a Fellow of IEEE.



Rangachar Kasturi, Ph. D.

Douglas W. Hood Professor

Research Interests: Computer Vision, Pattern Recognition, Biometrics, Video Information Processing
Dr. Kasturi is the Douglas W. Hood Professor of Computer Science and Engineering at the University of South Florida. He received his Ph.D. degree from Texas Tech University in 1982. He was a Professor of Computer Science and Engineering and Electrical Engineering at the Pennsylvania State University during 1982-2003. Dr. Kasturi served as the President of the International Association for Pattern Recognition (IAPR) during 2002-04 and as the President of the IEEE Computer Society during 2008. He is a Fellow of the IEEE and a Fellow of IAPR. He was a Fulbright scholar during 1999.



Jay Ligatti, Ph. D.

Associate Professor

Research Interests: Software security and programming languages, software monitoring, language-based security and reliability, security automata, type systems

Jay Ligatti received a Ph.D. in Computer Science from Princeton University (2006) and a B.S. in Computer Science and B.M. in Music Composition from the University of South Carolina (2001). Dr. Ligatti's current research projects include: Theory and practice of security-policy composition, theory and practice of monitoring software at run-time, principled definition and analysis of code injections, and proving the completeness of subtyping relations. Dr. Ligatti teaches Foundations of Software Security, Programming Languages, Advanced Programming Languages, Compilers, and Operating Systems.

College of Arts and Sciences



Jim Andrews, Ph. D.

Director

Research Interests: Interdisciplinary health informatics

Jim Andrews is the Director of the University of South Florida, School of Information, as well as Interim Director of the School of Mass Communications. He works with the faculty from both schools to develop new synergies that will lead to innovative research and education in a dynamic and shifting media and information landscape. His research falls broadly within the interdisciplinary field of health informatics. Specifically, he has interests in clinical research informatics, as well as health-related information behaviors, particularly in the context of cancer genetics. He works collaboratively with researchers from USF Health, within SI and SMC, and also across the county and internationally.



Randy Borum, Ph. D.

Professor

Research Interests: Behavior-based protocols for threat assessment, anti-terrorism training, protective intelligence, psychology of terrorism, performance under stress

Dr. Randy Borum is a Professor and Coordinator of Strategy and Information Analysis in the School of Information at the University of South Florida. He holds a joint appointment the College of Public Health and has previously served on the faculty of the College of Behavioral and Community Sciences. He regularly teaches and consults with law enforcement agencies, the Intelligence Community, and DoD, and has authored/ co-authored more than 140 professional publications. Dr. Borum has been an instructor with the BJA State & Local Anti-Terrorism Training (SLATT) Program since 1999, and worked as a Senior Consultant to the U.S. Secret Service for more than a decade helping to develop, refine and study behavior-based protocols for threat assessment and protective intelligence. He has previously served as a sworn police officer, Forensic Coordinator for a regional state psychiatric facility, and as full-time faculty at He has taught at the FBI Academy, FLETC, JFK Special Warfare Center and School (Ft. Bragg); Joint Special Operations University; CIA; and the US Army Intelligence Center and School (Ft. Huachuca). He was Principal Investigator on the "Psychology of Terrorism" initiative for an agency in the US Intelligence Community. He serves as an advisor to the FBI's Behavioral Analysis Unit-1 (Threat Assessment & National Security), the National Center for the Analysis of Violent Crime (NCAVC), the FLETC Behavioral Science Division, and is listed on the United Nations' Roster of Experts in Terrorism. Dr. Borum is a Past-President of the American Academy of Forensic Psychology, and currently serves as Senior Editor of the Journal of Strategic Security, and on the editorial boards of the American Intelligence Journal; Behavioral Sciences & the Law and Red Team Journal (online).

Appendix E



Chuck Connor

Professor

Research Interests: Volcanic risk models, high resolution magnetic survey techniques and mapping

In volcanology, Connor's research has focused on development of volcanic hazard and risk models. Research involves high resolution magnetic surveys and techniques, inversion of magnetic data. Recent geophysics projects have been in Armenia, Nicaragua, the western US, and Japan. To support this research Connor has various geophysical instruments (TEM, slingram EM, Cs-vapor magnetometer, differential GPS, carbon dioxide flux meter), data loggers, and a beowulf cluster for parallel programming involved in heavy lifting numerical problems and stochastic simulations. Funding comes from the US National Science Foundation, the US Geological Survey, and WorldBank.



Eric Eisenberg, Ph. D.

Professor and Dean of the College of Arts and Sciences

Research Interests: Organizational and health communication, strategic uses of communication

Eisenberg leads the largest college at USF, home to 24 academic departments, 22 centers and institutes, more than 15,000 students, 600 faculty and 180 staff. Eisenberg is a nationally recognized scholar in the strategic use of communication to promote positive organizational change. He has published extensively in national and international scholarly journals and is a widely sought-after consultant. Eisenberg was appointed to a five-year term as dean of the USF College of Arts and Sciences in March 2010. As interim dean from 2008-2010, he guided the college through a complex process of restructuring that led to the establishment of the School of Humanities, School of Social Sciences, and School of Natural Sciences and Mathematics, as well as steering the efforts to integrate new academic units into the college. He supported the recruitment of outstanding new faculty from the United States and abroad, strengthened the college's leadership and cultivated a greater sense of scholarly community across the college.



David Jacobson, Ph. D.

Professor

Research Interests: Immigration and citizenship, human rights, women's status in global conflict, sustainability

Jacobson's research focuses on areas related to immigration and citizenship, international institutions and law, human rights, and women's status in global conflict. His work concerns sustainability in two areas: the sustainability of communities in the context of social change and the implications of climate change for human institutions.

**Michael Brannick, Ph.D.**

Chair and Professor, Psychology

Research Interests: Industrial and organizational psychology

Michael Brannick serves as chair of the department of Psychology. He received his Ph.D. from Bowling Green State University in 1986. His research interests include Industrial and organizational psychology, Research Methods and Statistics, and Team Performance (effectiveness and measurement). He teaches undergraduate as well as graduate level courses. His undergraduate courses include: Industrial psychology, applied psychology, Fairness in selecting employees, research methods, and tests and measures. His graduate courses include: Correlation & regression, Decision making, Job analysis, Meta-analysis, Psychometrics, Teams & teamwork, and Univariate statistics (ANOVA & Regression). He is a Member of the American Psychological Association, the American Psychological Society, and the Society for Research Synthesis Methodology, as well as a fellow of the Society for Industrial and Organizational Psychology.

**Toru Shimizu, Ph.D.**

Associate Chair

Research Interests: Visual information processing, comparative neuroscience, cognitive neuroscience

Shimizu received his M.S. and Ph. D. degrees in psychology from the University of Maryland and was a post-doctoral neuroscientist at the University of California, San Diego. He has been a visiting professor at Keio University in Japan and helped to facilitate a collaborative research agreement between the psychology departments of Keio and USF. Shimizu's research is focused on visual information processing, animal cognition, comparative neuroscience, and evolution of the brain. He leads the Comparative Cognition and Neuroscience laboratory at USF. Shimizu teaches Comparative Psychology, Psychology of Learning, Physiological Psychology, Methods in Neurosciences, and Neuroscience Seminar.

**Paul Spector, Ph.D.**

Area Director, Industrial/Organizational Program

Paul E. Spector is a distinguished university professor of industrial/organizational (I/O) psychology and I/O doctoral program director at the University of South Florida. He is also director of the NIOSH funded Sunshine Education and Research Center's Occupational Health Psychology program. He is the Associate Editor for Point/Counterpoint for Journal of Organizational Behavior, and Associate Editor for Work & Stress, and is on the editorial board of Journal of Applied Psychology. His research is in the areas of occupational stress and workplace violence. Spector received his Ph.D. in Industrial/Organizational Psychology at the University of South Florida in 1975. He is interested in how organizational factors, work-nonwork interface, and personal characteristics interact to affect employee health, safety, and well-being. All of this fits into the newly emerging interdisciplinary field of occupational health psychology. He studies counterproductive work behavior, interpersonal conflict, job attitudes, job stress, work-family conflict, and workplace violence. He also studies how personality affects each of these areas.

**Stephen Stark, Ph.D.**

Associate Professor and Graduate Program Director

Research Interests: Psychometrics, computer adaptive testing, multivariate statistics

Dr. Stark's research focuses on the development and application of psychometric methods to practical problems in industrial organizational and educational settings. He has worked with university faculty and practitioners to develop and improve tests measuring constructs, such as job performance, personality, and cognitive ability. He has published papers on computer adaptive testing, differential item and test functioning (measurement bias), and issues related to faking in personality assessment. He teaches psychometrics, multivariate statistics, industrial organizational psychology, and introduction to social psychology.

Appendix E

College of Research and Innovation



Sudeep Sarkar, Ph. D.

Associate Vice President for Research and Innovation
Professor, Computer Science and Engineering

Research Interests: Perceptual organization using pattern theory, cloud computing, image analysis

Sarkar received the B.Tech. degree in Electrical Engineering from the Indian Institute of Technology, Kanpur, in 1988. He received the M.S. and Ph.D. degrees in Electrical Engineering, on a University Presidential Fellowship, from The Ohio State University, Columbus, in 1990 and 1993, respectively. He has co-authored one book and co-edited another book on perceptual organization. He is the recipient of the National Science Foundation CAREER award in 1994, the USF Teaching Incentive Program Award for Undergraduate Teaching Excellence in 1997, the Outstanding Undergraduate Teaching Award in 1998, and the Theodore and Venette Askounes-Ashford Distinguished Scholar Award in 2004. He served on the editorial boards for the IEEE Transactions on Pattern Analysis and Machine Intelligence (1999-2003) and Pattern Analysis and Applications Journal during (2000-2001). He is currently serving on the editorial board of the Pattern Recognition Journal and the IEEE Transactions on Systems, Man, and Cybernetics.



Paul R. Sanberg, Ph.D., D.Sc.

Senior Vice President for Research & Innovation
President, USF Research Foundation
Distinguished University Professor

Research Interests: Technology and innovation, cell therapeutics for degenerative diseases

Sanberg is a member of the Board of Scientific Counselors for the National Institute of Drug Abuse at the National Institutes of Health, and has served on numerous scientific advisory boards for health-related foundations and companies. He has significant industry experience with biotech companies involved in cell therapy for degenerative disorders and biopharmaceutical development. He is the Editor-in-chief of Technology and Innovation, and serves on editorial boards for more than 30 scientific journals. Dr. Sanberg is the President of the National Academy of Inventors and has also served as president of a number of professional societies including the American Society for Neural Transplantation and Repair, the Cell Transplant Society, and the International Behavioral Neuroscience Society. He is the author of more than 600 scientific articles, including thirteen books, with over 20,000 scientific citations (Google scholar). As an inventor on approximately 100 health-related U.S. and foreign patents, his early work was pioneering in understanding why brain cells die in neurological disorders and in drug abuse research. Sanberg's work has been instrumental in translating new pharmaceutical and cellular therapeutics to clinical trials for Tourette syndrome, depression, stroke, Huntington's disease and Parkinson's disease. He is a Fellow of the AAAS, a Charter Fellow of the National Academy of Inventors, and serves on the evaluation committee of the National Medal of Technology and Innovation.



Lt. General Martin Steele

Director of Office of Military Partnerships
Associate Vice President for Veterans Research

Lieutenant General Martin R. Steele, US Marine Corps (retired), is the associate vice president for veterans research. General Steele, who joined USF in 2009, has been executive director of Military Partnerships and co-chair of USF's Veterans Reintegration & Resilience Initiative, a major goal of which is the formation of a nationally recognized research center aimed at the rehabilitation and successful reintegration of veterans. General Steele enlisted in the Marine Corps in 1965 and rose from private to three-star general with a tenure as the longest serving chief operating officer in the history of the Marine Corps. He culminated his military career as the deputy chief of staff for plans, policies, and operations at Headquarters, US Marine Corps in Washington, DC. Upon his retirement from

active duty, General Steele served as president and CEO of the Intrepid Sea-Air-Space Museum, the largest naval museum in the world. A decorated combat veteran with over 34 years of service, he is a recognized expert in the integration of all elements of national power (diplomatic, economic, informational, and military) with strategic military war plans and has served as an executive strategic planner/policy director in multiple theaters across Asia. His extraordinary career was chronicled as one of three principals in the award winning military biography *Boys of '67* by Charles Jones. As founder and chairman of Steele Partners, Inc., a strategic advisory and leadership consulting company, General Steele has led a philanthropic transition program assisting exiting Marines into private sector jobs throughout the country, at no cost to the Marine participants, the Marine Corps or to the companies that provide employment opportunities. He serves on several boards across the country, including Fisher House Foundation, Veterans Advantage, and the Marine Corps Scholarship Foundation. General Steele holds a bachelor's degree in history from the University of Arkansas, where he was recognized as a distinguished graduate of the Fulbright College of Arts and Sciences, and master's degrees from Central Michigan University, Salve Regina College, and the Naval War College.

College of Behavioral and Community Sciences



Max Bromley, Ed. D.

Associate Professor

Research Interests: Law enforcement accreditation standards

Dr. Bromley is Associate Professor Emeritus in the Department of Criminology and Director of the Master of Arts in Criminal Justice Administration Program (designed specifically for criminal justice practitioners) at the University of South Florida. Prior to becoming a fulltime faculty member he served as the Associate Director of Public Safety at USF and worked in the criminal justice field for almost 25 years. He served on the statewide task force that established the first set of law enforcement accreditation standards for Florida. Dr. Bromley was also the Chairperson for USF's taskforce on campus security following the terrorist attack on September 11th. Bromley co-authored the textbook *Crime and Justice in America*, 6th edition. He also co-edited *Hospital and College Security Liability* and was the senior co-author of

College Crime Prevention and Personal Safety Awareness. In addition, he has written dozens of scholarly articles, book chapters and technical documents on a variety of campus crimes and campus policing issues. Dr. Bromley assisted the U.S. Bureau of Justice statistics in developing and implementing the first national survey of campus law enforcement agencies. More recently Dr. Bromley has also been involved in research on community policing. His articles have appeared in *Policing*, *Police Quarterly*, *Criminal Justice Policy Review*, and *Journal of Contemporary Criminal Justice*. Dr. Bromley also wrote *Department Self-Study: A Guide for Campus Law Enforcement Administrators*, which is used at over 1,000 institutions of higher education.



Charles Dion, MA

Director, Policy and Services Research Data Center

Research Interests: Statistical analysis of large administrative databases

Charles Dion, M.A. is the Director of the Policy and Services Research Data Center (PSRDC) in the Department of Mental Health Law and Policy at the Louis de la Parte Florida Mental Health Institute (FMHI), University of South Florida. He received both his Bachelor's and Master's degrees from the University of South Florida in Mathematics. His Master's degree has a concentration in Statistics. Following the completion of his Master's degree he went to work for Florida Medical Quality Assurance, Inc. (FMQAI), the Florida Medicare Quality Improvement Organization as a Data Analyst where he worked for fourteen years developing expertise in data mining and the statistical analysis of large administrative data bases, primarily Medicare claims data, and steadily increasing his level of responsibility. The positions he held were Data Analyst, Statistician, Lead Statistician, Director of Analytic Services, and Chief Analytic Officer.

Appendix E

**LeGrande Gardner , Ph. D.**

Instructor

Research Interests: Criminal intelligence, computer and digital media crime, digital forensics, antiterrorism, surveillance and counter-surveillance

LeGrande Gardner, Ph.D. is an Instructor in Criminology at the University of South Florida. He earned his doctorate in sociology with a criminology specialization from Virginia Polytechnic Institute and State University (1984). He received his B.S. (1979) and M.A. (1981) from Georgia Southern University. Prior to becoming a full time faculty member he served as a sworn law enforcement officer for over 25 years with experience in both federal and local agencies, to include an appointment as a Special Agent with the Federal Bureau of Investigation (FBI). Dr. Gardner's law enforcement career included 17 years in managerial, administrative, and supervisory assignments to include criminal intelligence, computer crime and crimes involving digital media, Digital Forensics Laboratory, computer forensics, anti-terrorism, Homeland Security, organized crime, criminal gang interdiction and suppression, and surveillance and counter-surveillance operations. Additional experiences as a police supervisor included patrol operations, specialized street-level tactical operations, career criminals, surveillance operations, and an assignment on the Special Weapons And Tactics (S.W.A.T.) Team. In his last three years of active duty he was concurrently assigned as a Task Force Agent to the FBI's Cyber Crimes Unit. Dr. Gardner has over 28 years experience as an adjunct instructor and police trainer for numerous law enforcement agencies, government organizations, colleges and universities, and private contractors. In addition to his academic credentials, he received certification by the State of Florida Criminal Justice and Standards Training Commission as a police instructor, firearms instructor, defensive tactics instructor, and police/emergency vehicle driving instructor. He regularly taught in the regional police academy and served as an Instructor for police in-service training programs. Dr. Gardner's teaching interest and specialization is in the areas of cyber-crimes, technology-related crimes, digital forensics, and e-discovery. As an extension of his prior background in criminal intelligence investigations, his research interest is in the area of subcultural deviance and criminal behavior, more specifically 1%er bikers and organized criminal hacking groups.

**Michael J. Leiber, Ph. D.**

Professor and Chair

Research Interests: Racial and ethnic issues in criminology

Michael J. Leiber, Ph.D., is a Professor in Criminology at the University of South Florida. He earned his doctorate in criminal justice from the State University of New York at Albany. His main research interests and publications lie in juvenile delinquency, juvenile justice, and race/ethnicity. Over the last twenty years, he has also worked with the Office of Juvenile Justice & Delinquency Prevention (OJJDP) as a consultant dealing with the overrepresentation of minority youth in the juvenile justice system. In 2008, he received the W.E.B. Du Bois award for significant contributions to the field of racial and ethnic issues in criminology from the Western Society of Criminology.

**Paul Stiles, J.D., Ph.D.**

Associate Professor and Associate Chair

Paul G. Stiles, J.D., Ph.D., is an Associate Professor and Associate Chair in the Department of Mental Health Law & Policy at the Louis de la Parte Florida Mental Health Institute, University of South Florida (USF). He received his Ph.D. in Clinical Psychology from Hahnemann University and J.D. in Law from Villanova University Law School. Dr. Stiles' clinical experience includes providing psychological and neuropsychological services in both private and public psychiatric facilities as well as nursing homes. In addition to a substantive focus on geriatric mental health services and policy, his research has involved the compilation, integration, analysis and dissemination of relatively large administrative data sets (e.g. Medicaid/Medicare eligibility and claims files, national hospital surveys, state mental health service regulatory databases) and the application of findings to public mental health systems and the mental health of older persons. Dr. Stiles has also focused on research integrity and ethics and was principal investigator for an NIMH-funded project examining whether enhancements made to the form and process of information disclosure during informed consent procedures improve comprehension and understanding of the disclosures by mentally ill persons. Most recently he is involved in examining the impact of actual and perceived coercion on prisoners in research. He teaches courses on legal and ethical issues in aging, provides intensive workshops on research ethics, and formerly chaired the social-behavioral IRB for USF (which he still serves on) and currently chairs the USF Conflict of Interest Committee. Dr. Stiles was also the principal investigator on two NIH grants to develop and conduct an intense

course on research ethics as well as a series of instructional modules on the ethical conduct of research. Finally, he currently is PI on an NIMH grant to implement an intense summer program to train undergraduates in research processes/ethics as well as facilitator for the MHLP post-doctoral fellowship program.



Julianne Serovich, Ph.D.

Dean and Professor

Research Interests: Disclosure of HIV status, treatment for homeless youths

Serovich's research focuses on the relationship between HIV disclosure to family, friends, and sex partners and the effects of sharing such information both on reducing HIV transmission and building social support structures for those coping with the illness. She is the principal investigator (PI) of the Kiss & Tell Project for Men and the Kiss & Tell Project for Women as well as other major studies that have resulted in more than 60 book chapters and peer reviewed publications. Her work began more than two decades ago at Texas Tech University, where, after receiving her doctorate from the University of Georgia, she was named an assistant professor of marriage and family therapy in 1991. Also a graduate of Loyola College, Baltimore, she joined the OSU faculty in 1995 and was named the inaugural director of the CFT program. Since 1997, she has received grant funding in excess of \$9 million, mostly from the National Institutes of Mental Health (NIMH).

Office of Information Technology



Alex Campoe, B.S.

Director of Information Security

Research Interests: Identity and access management, IT audits, risk management, security policies

Alex Campoe is USF's director of Information Security. He is a CISSP-certified Security professional with more than 15 years of experience dealing with a broad range of issues involving data security, from policy and governance, to detailed data forensics. Campoe's professional experience includes responsibilities for Identity and Access Management, IT audits, Risk Management, writing and implementation of security policies and awareness program. His technical hands on experience includes working with UNIX administration (Solaris, Linux), MySQL, PHP, Perl and data forensics tools. Alex earned a BS in Electrical Engineering from the University of Texas at Arlington.



Michael Pearce, CIO

Vice President, Information Technology

Michael Pearce currently serves as the System Vice President, CIO for the University of South Florida System. Until recently, Mike served as the Chief Information Officer for Suffolk University in Boston Massachusetts. Prior to that he served as the Deputy Chief Information Officer for the University of Southern California, located in Los Angeles, and headed the technical component of the Information Services Division for the University. He has held numerous other managerial positions in Accounting, Finance, and Information Systems for a variety of organizations ranging in size from small venture capital start-up firms to large multi-billion dollar conglomerates. In previous roles, Mike has held both technical and administrative roles of increasing responsibility such as the Vice President of Information Technology for Bausch & Lomb, Vice President and Chief Information Officer for Chiron Vision, and as Corporate Controller of Beckman Instruments. During his 25 year history, Mike has led a number of global projects, system implementations, and reengineering initiatives for a variety of companies. He spearheaded the worldwide-shared services initiatives that resulted in a Shared Service Data Center in Geneva, Switzerland, and Fullerton, California. Mike currently holds a master's degree in Finance and a bachelor's degree in accounting with significant experience in Information Systems Management. He serves on numerous customer, industry, and technology advisory boards throughout the nation.

Appendix E

College of Education



Ilene R. Berson, Ph. D., NCSP

Professor

Ilene R. Berson, Ph.D., NCSP is a Professor of Early Childhood in the Department of Childhood Education and Literacy Studies at the University of South Florida. She also serves as the coordinator of the USF Early Childhood doctoral program with an emphasis on social justice and child advocacy. Dr. Berson has extensive experience working with children ages birth to eight, and she is a nationally certified and state licensed school psychologist. Her research focuses on prevention and intervention services for young children at imminent risk for behavioral and mental health challenges associated with child maltreatment and other traumatic events. She leads collaborative reform initiatives, forging linkages between early childhood, child welfare, and health care systems, as well as international studies on the engagement of young children with digital technologies. Dr. Berson has extensively published books, chapters, and journal articles and has presented her research worldwide. She has been the principal investigator on funded grants totaling over \$2.5 million. Dr. Berson embodies the characteristics of an

engaged scholar who works closely in reciprocal relationships with practitioners and policymakers to develop innovative solutions for emerging and long term issues to promote young children's well being.



Dr. Michael J. Berson

Professor

Research Interests: Integration of technology into education

Dr. Michael J. Berson is a Professor of Social Science Education at the University of South Florida and a Senior Fellow in The Florida Joint Center for Citizenship. Within the USF College of Education, he has served as founding director of the iteach technology and teacher education program. Dr. Berson instructs courses in Social Science Methodology, receiving international recognition for integrating emerging technologies into instruction and modeling dynamic and fluid pedagogy. He has received the USF Outstanding Undergraduate Teaching Award and was twice chosen as the USF nominee for the United States Professor of the Year Program sponsored by CASE and The Carnegie Foundation for the Advancement of Teaching. He also was honored with the National Council for the Social Studies President's Award for outstanding contribution to the field and was selected for the Florida Council for the Social Studies

International Relations Award for his research in global child advocacy. Dr. Berson has served as an advisor on the integration of technology into education to numerous companies and organizations. He was elected Chair of the College and University Faculty Assembly of the National Council for the Social Studies, Vice President of the Society for Information Technology & Teacher Education, a Member of the Board of Directors for the Social Science Education Consortium, and a Member of the Advisory Board for the International Society for the Social Studies. Dr. Berson has extensively published books, chapters, and journal articles and presented his research worldwide. He was named the Association of Educational Publishers Distinguished Achievement Award Winner in the Learned Article category. He has been the principal investigator, co-principal investigator, or primary partner on funded grants totaling over \$6 million. Dr. Berson conducts research in the areas of global child advocacy and technology in social studies education.

Center for Urban Transportation Research



Jason Bittner, MPA

Director

Research Interests: Freight and intermodal transportation, infrastructure asset management

Jason Bittner was appointed in January 2012 as the 3rd Director of the Center for Urban Transportation Research (CUTR) at the University of South Florida. Mr. Bittner previously was Deputy Director of the National Center for Freight and Infrastructure Research and Education (CFIRE) at the University of Wisconsin–Madison. He had served as Principal Investigator or Co-Principal Investigator on over \$1.8 million in sponsored research in maintenance

quality assurance, freight transportation and mobility concerns since 2008 and has published numerous articles in the Transportation Research Record and other journals. He helped establish the Mid-America Freight Coalition, a ten-state partnership advancing freight planning and operations in the Midwest region and has over 14 years of experience working with multistate coalitions and regional entities on transportation topics. Mr. Bittner is a member of the TRB Committee on Transportation Asset Management and co-chair of the TRB Committee on Conduct of Research. He is also a member of the Executive Committee for the American Society for Public Administration, Section on Transportation Policy Analysis. Previous to his work at CFIRE, Mr. Bittner was an Assistant Municipal Manager in Ohio, where he was responsible for public works and economic development. He also interned on the staff of US Senator Howard Metzenbaum. Bittner taught Political Science at Edgewood College and held a Lecturer's appointment in Transportation Management and Policy at the University of Wisconsin. He holds a Master's degree from the La Follette School of Public Affairs at the University of Wisconsin and a Bachelor's degree in Political Science and Public Administration from the American University in Washington, D.C.

Operations and additional research



Michael Hill

Colonel, 92nd Mission Support Group Commander at Fairchild Air Force Base

Colonel Michael S. Hill is the 92nd Mission Support Group Commander at Fairchild Air Force Base, Washington. He leads the installation and mission support activities including security, civil engineering, force support contracting, communications, and logistics readiness. Additionally, he is responsible to support the 92nd Air Refueling Wing's Air Expeditionary Force contribution through personnel and equipment readiness. A native of Illinois, Colonel Hill received his Bachelor of Science degree in Computer Science from Northern Illinois University. He received his commission from the Air Force Reserve Officer Training Corps program at the Illinois Institute of Technology in Chicago. He has served as Director of Communications (J6), Joint Special Operations Task Force Two, C4 Requirements Manager, Executive officer, Aide-de-Camp to the AFSOC Commander, and as a Presidential Communications Officer at the White House Communications Agency. He also served as Commander of the 42nd Communications Squadron, Chief, Intelligence Systems Branch, Directorate of Intelligence, Headquarters Air Com-

bat Command, and as the Commander, 1st Joint Communications Squadron, Joint Communications Support Element (JCSE) a joint airborne communications unit that provided communications support for Operations IRAQI and ENDURING FREEDOM.



John W. Long

Senior Vice President and Chief Operating Officer,
University of South Florida

John W. Long is a veteran U.S. Air Force officer who most recently ran the day-to-day support activities at Andrews Air Force Base, including flight line infrastructure support for Air Force One. Long is a University of South Florida alumnus with a bachelor's of arts in business management. The COO role focuses on human capital/resources, services and infrastructure, safety and security, and business operations that impact a cross section of faculty and employees.

John Burger

Chief, Cyber Security; Colonel, USCENTCOM

Colonel John Burger is the chief of Cyber Division at U.S. CENTCOM

Support for the Florida Center for Cybersecurity



DIVERSIFIED INCORPORATED OF TAMPA BAY
12907 Hickorywood Lane
Largo, FL 33774

November 4, 2013

Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Sir:

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

We strongly urge investment in this center and emphasize that time is of the essence.

Thank You.

Diane Zader

Diane Zader
President
Diversified Incorporated of Tampa Bay

Toll Free - 888-3DIV-INC
888-334-8462

[www. div-inc.com](http://www.div-inc.com)



November 4, 2013

Gov. Rick Scott
Capitol
Tallahassee, FL

Dear Gov. Scott,

Thank you for your recent letter on Oct 4 congratulating me for Crystal Clear Technologies recent recognition as a nominee for Tampa Chamber of Commerce Small Business of the Year Award. In your letter you mentioned Florida's unemployment rate and a focus on creating jobs. As a Woman Owned Small Business based in St Petersburg, we struggle to hire talented graduates with cybersecurity training to help us fortify our defenses, largely because the supply is not currently available.

There are fragmented efforts in cybersecurity education and services scattered across the state, but Florida has no central cybersecurity power-base and no reliable pipeline of skilled cybersecurity professionals. Due to the demand of this skillset and lack of supply within Florida, we've instead had to contract with companies in Maryland, Texas, and Washington DC just to name a few. We've also struggled with filling positions for Govt related cyberdefense with United States Major Commands (USMAJCOM's) which we contract with.

Our highest priority at Crystal Clear Technologies is protecting the data and network infrastructure of our customers throughout the world. The expansion of mobile devices, cloud-based services and other web-dependent activities has made our efforts significantly more challenging. Cybersecurity is now one of our most urgent and important focal points.

A Florida Center for Cybersecurity would be a significant step forward for the state of Florida. It would meet the vital needs of Florida companies across a spectrum of industries. It would help us expand—as we better utilize energy that we have been using on patchwork cybersecurity efforts. I am confident it would help lure other large companies who are hungry for cybersecurity talent to Florida. The University of South Florida, with its strong cybersecurity knowledge-base, interdisciplinary approach, and location near business and defense entities in Tampa Bay, is well-positioned to host this revolutionary workforce driver.

5555 Central Ave. St. Petersburg, Florida 33710

Ph: 727.321.8888

Fx: 727.683.9360

Support for the Florida Center for Cybersecurity

November 4, 2013

I urge you to support and invest in this important endeavor, for the betterment of all of Florida.

Respectfully,



Crystal Culbertson
Chief Executive Officer
Crystal Clear Technologies, Inc.
8(m) Woman Owned Small Business
www.crystalcleartec.com

5555 Central Ave. St. Petersburg, Florida 33710

Ph: 727.321.8888

Fx: 727.683.9360

IRONCLAD

TECHNOLOGY SERVICES

11/1/2013

Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Sir,

I am writing this letter to express my support for the establishment of and investment in the Florida Cyber Security Center of Excellence (FCC) to be set up at University of South Florida.

Today's environment requires vigilance and expertise to thwart the continued attempts of cyber-attack on US Infrastructure targets belonging to private business and government agencies at all levels.

The FCC will be of monumental value to the aforementioned targets and it is our belief that the lessons learned from this sorely needed resource will provide huge dividends. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

We strongly urge investment in this center and emphasize that time is of the essence.

Thank You.



Tony Land
Executive Vice President
Ironclad Technology Services LLC

Support for the Florida Center for Cybersecurity



November 2, 2013

TO: Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

REFERENCE: USF Cybersecurity Center of Excellence

Dear Governor Scott,

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy. I strongly urge investment in this center and emphasize that time is of the essence.

Being a retired Army Sergeant Major after serving just over 20 years in Special Operations (the last 14 of which were in Delta Force), I can attest to the criticality of such an academic program. The future security of the United States will depend on our youth's ability to maintain and enhance Cybersecurity. I can think of no better place for a program such as this having three major commands; USSOCOM, USCENTCOM and USSOCENT located within minutes from the USF campus.

Thank You.

Sincerely,

Andrew S. Wilson

Digitally signed by Andrew S. Wilson
DN: cn=Andrew S. Wilson, o=Quiet Professionals,
LLC, ou=email-andy@quietprofessionalsllc.com,
c=US
Date: 2013.11.02 02:31:45 -0400

Andrew Wilson President & CEO

Superior Skills, Proven Performance

WWW.QUIETPROFESSIONALLLC.COM / 727-488-9926 / 36181 EAST LAKE ROAD, SUITE 220, PALM HARBOR, FL 34685



November 2, 2013

TO: Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

REFERENCE: USF Cybersecurity Center of Excellence

Dear Governor Scott,

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy. I strongly urge investment in this center and emphasize that time is of the essence.

Being a retired Army Sergeant Major after serving just over 20 years in Special Operations (the last 14 of which were in Delta Force), I can attest to the criticality of such an academic program. The future security of the United States will depend on our youth's ability to maintain and enhance Cybersecurity. I can think of no better place for a program such as this having three major commands; USSOCOM, USCENCOM and USSOCENT located within minutes from the USF campus.

Thank You.

Sincerely,

Andrew S. Wilson

Digitally signed by Andrew S. Wilson
DN: cn=Andrew S. Wilson, o=NavELite, LLC, ou,
email=andrew.wilson@navelite.com, c=US
Date: 2013.11.02 02:33:05 -0400

Andrew Wilson President & CEO

WWW.NAVELITE.COM / (888) 928-8696

WHEN SURVIVAL COUNTS

Support for the Florida Center for Cybersecurity



November 4, 2013

Office of Governor Rick Scott

State of Florida

The Capitol

400 S. Monroe St.

Tallahassee, FL 32399-0001

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity and data protection is vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries in particular the Department of Defense rely on data security to protect the American way of life. Unfortunately, current technologies are not adequate to maintain the security of that data and those who wish to do us harm are constantly creating new ways to access our data.

I spent 18 years in acquisition as a Contracting Officer, Program Manager and the Technical industrial Liaison Officer for the United States Special Operations Command. During my time there, I was amazed that the local academia did not take advantage of the opportunities the command offered in developing leading edge technologies. I believe that the FCC will help to change that environment to create an opportunity for greater interaction between USSOCOM and academia to help foster technologies that are beneficial to both the Government and Civilian sectors.

I strongly urge investment in the FCC and hope that the state of Florida will move quickly to support this endeavor.

Thank You.

Joseph R Daum, D.B.A

President

GoBU Consulting, LLC

1 Nov 2013

Governor Rick Scott
Capitol
Tallahassee, FL

Dear Governor Scott:

I manage two classified IBM research, development, test & evaluation facilities in the Tampa/St Pete area supporting our military COCOMs. At IBM, one of our highest priorities is ensuring the complete protection of associated data and network infrastructures to best maintain the integrity of our customers and partners. With the expansion of mobile devices, cloud-based services and other web-dependent activities, providing protection of data has become significantly more challenging. Ensuring effective cybersecurity is now one of our most urgent and important needs.

As a global technology leader, IBM supports the development and hiring of talented graduates around the world, and, with our presence in Florida, we look to support increased opportunities to work with cybersecurity students and professionals within the state to help fortify defenses for us, our customers and our nation.

A major issue noted is the limited availability of educated and experienced cybersecurity resources nationwide. And I've noticed that although there are fragmented efforts in cybersecurity education and services scattered across the state, Florida has no central cybersecurity power-base and no reliable pipeline of skilled cybersecurity professionals. We continue to do business, out of state, partnering to provide cybersecurity services on what could be increased economy for the state *if* the proper base were present.

A Florida Center for Cybersecurity would be a game-changer. It could serve to meet the vital needs of Florida companies across a spectrum of industries. And, just as Florida is known as the military combatant command powerhouse in the US, this move would help establish Florida as a cybersecurity leader for the nation, luring additional talent, companies and opportunities to Florida.

The University of South Florida, with its strong cybersecurity knowledge-base, interdisciplinary approach, and location near major business and defense entities in Tampa Bay, is well-positioned to host this revolutionary workforce driver.

I look forward to your strong and timely support in this important initiative, for the betterment of all of Florida.

Respectfully,

Tony Smith
Tony Smith, PMP, CISSP
St. Petersburg Site Location Executive
IBM Global Business Services
tony.smith@us.ibm.com

IBM

Support for the Florida Center for Cybersecurity



November 4, 2013

Office of Governor Rick Scott
State of Florida
400 S. Monroe St.
Tallahassee, FL 32399-0001

Dear Gov. Scott,

In today's modern world of mobile technology and constant connectivity, our businesses and in fact nearly all facets of modern life, increasingly rely on cybersecurity to ensure that information and assets are protected. Threats come from all directions.

This is not only a problem that affects transportation. From information to process credentials to access ports and airports to information collected on toll and expressways, the data security issues are more relevant today than ever before. Cybersecurity has quickly become one of the most serious issues our nation has ever faced. The country needs an infusion of highly skilled cybersecurity professionals. Florida can take the lead and we are well positioned to do so.

Now is the time for investing in a statewide center for cybersecurity. As the leader in this field, Florida will be the example for others states to follow. Ensuring that Florida is on the cutting-edge of this global industry will encourage job growth as our talent pool is enriched.

I wholeheartedly support the creation of the Florida Cybersecurity Center, to be housed at the University of South Florida, and I urge you to do so as well by investing in its future. It would be an investment that would deliver rich returns for all of Florida's businesses and residents.

Thank you,

Jason Bittner
Director



University of South Florida • 4202 E. Fowler Avenue CUT100 • Tampa, FL 33620-5375
(813) 974-3120 • FAX (813) 974-5168 • www.cutr.usf.edu



Office of the President
4202 E. Fowler Ave, CGS 401
Tampa, FL 33620-4401

Dear President Genshaft,

Recently I became aware of the state of Florida's initiative to establish the Florida Center for Cyber security at the University of South Florida. As a former Director of DISA, and former Director of Command, Control, Communications, and Computers (J-6) for US CENTCOM, I know that creating a forward-thinking and proactive network of academic, business, and both public and public sector cyber security training programs, will be invaluable to those you serve. I could envision USF becoming the academic center for Cyber trends, research, and technology incubation, and a highly respected institution where industry, public, private, and the DoD, could come to test new capabilities and facilitate network sustainment through simulation and expert assistance. I note the success you have had creating a "Stem Camp" as a threshold experience for Floridian youth. Initiatives like yours, to raise the levels of interest for our future cyber work force, are truly inspirational and sorely needed.

The University of South Florida has the ability to create an important bridge between the owners and operators of critical and vulnerable infrastructure and those entities best positioned to develop a more secure cyber network.

I support and endorse the University of South Florida's Florida Center for Cyber security and look forward to hearing about the comprehensive cyber programs USF designs to keep America safe and nation's economy strong.

Sincerely

A handwritten signature in dark ink, appearing to read "Al Edmonds", is written over a light blue horizontal line.

Al Edmonds
LT/General, USAF (Retired)
Chairman and CEO
(Former Director, Defense Information Systems Agency-DISA)

2760 Eisenhower Avenue, Suite 202
Alexandria, Virginia 22314

www.edmondses.com

Office: 703) 778-7070
Fax: (703) 778-7060

Support for the Florida Center for Cybersecurity



November 5, 2013

The Honorable Rick Scott
Governor, State of Florida
The Capitol
400 S. Monroe Street
Tallahassee, FL 32399

Dear Governor Scott:

USF Research and Innovation is very pleased to write this letter in support of the establishment and investment into the Florida Cybersecurity Center of Excellence to be housed at the University of South Florida. The proposed Cybersecurity Center of Excellence at USF will position the State of Florida as the national leader in cybersecurity, create new high-paying jobs, serve as the statewide facilitator of cybersecurity education, act as a "one stop-shop" cybersecurity clearing house for the statewide business and higher education communities, and attract new financial, healthcare, transportation, utility, and defense entities to Florida. The Cybersecurity Center will also provide an avenue for collaboration for the numerous exports on this topic throughout the state.

Along with USF's solid foundation in the cybersecurity arena and its ideal location to security experts at MacDill Air Force Base, the University of South Florida is one of the nation's top 73 public research very high universities and one of 40 public research universities nationwide with very high research activity that is designated as community engaged by the Carnegie Foundation for the Advancement of Teaching. The dedication of USF researchers, students, and staff has contributed to the phenomenal growth in research that USF has experienced over the past 27 years. In FY1986, the University received \$22.3 million in external funding for research projects. In FY1995, research awards had reached over \$100 million and in FY2013, USF generated over \$413.6 million in sponsored research activity. According to the National Science Foundation (NSF), USF ranks 50th in the nation for total research expenditures among all U.S. universities, public and private, and is ranked 33rd in total research expenditures and 30th in federal research expenditures for public universities. In 1990, USF became a member of the Oak Ridge Associated Universities. A designation that allows USF to participate in research collaborations with national laboratories, federal agencies, other educational and governmental entities, and the private sector.

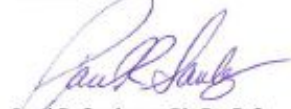
The Technology Transfer Office was established at USF in 1990 to facilitate the commercialization of university intellectual property, including patents and copyrights. As a result, USF ranked in the top 10 world-wide for granted U.S. patents among all universities in 2010 and 2011. In 2012, USF was in the top 15 for the number of startup companies and in the top 25 for the number of licenses and options,

USF RESEARCH & INNOVATION • OFFICE OF THE SENIOR VICE PRESIDENT
University of South Florida • 3702 Spectrum Blvd., Suite 165 • Tampa, FL 33612-9445
(813) 974-5570 • Fax (813) 974-4962 • www.research.usf.edu

when compared to other U.S universities in a survey by the Association of University Technology Managers. In recent years, USF founded and remains the home of the National Academy of Inventors (NAI), a non-profit member organization with over 2,000 individual inventor members and Fellows spanning more than 100 U.S. universities, and governmental and non-profit research institutions. The USF Chapter of the NAI has 270 USF faculty, staff, students, and alumni members, who collectively hold more than 1,400 U.S. patents.

As you can see, the University of South Florida is dedicated to the discovery of new knowledge, insights, and forms of expression through significant innovative research and other creative activity. Please accept this letter as an indication of the Office of Research and Innovation's commitment and strong desire to support this Center and all our faculty and their research endeavors.

Sincerely yours,

A handwritten signature in blue ink, appearing to read "Paul R. Sanberg".

Paul R. Sanberg, Ph.D., D.Sc.

Senior Vice President for Research & Innovation

Support for the Florida Center for Cybersecurity



November 5, 2013

The Honorable Rick Scott
Governor, State of Florida
The Capitol
400 S. Monroe Street
Tallahassee FL 32399

Re: Letter of Support for the Florida Center for Cybersecurity

Dear Governor Scott:

I am writing this letter to express my support for the establishment of an investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

The FCC will be a complimentary effort to assisting Draper's ongoing work in cyber forensics, identity management, mobile software, and secure data links here in Florida.

We strongly urge investment in this center and emphasize that time is of the essence.

Thank You.

A handwritten signature in black ink, appearing to read "Shankar", written over a horizontal line.

Shankar Sundaram
Center Director, Draper Laboratory

DRAPER BIOENGINEERING CENTER AT USF
3802 SPECTRUM BLVD | SUITE 201 | TAMPA | FLORIDA | 33612-9220
P: 813.465.5400 | F: 813.465.5401 | W: WWW.DRAPER.COM



Quantum Technology Sciences, Inc.
1980 North Atlantic Avenue, Suite 201
Cocoa Beach, FL 32931
Phone (321) 868-0288 / Fax (321) 868-0303

November 5, 2013

Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Dear Governor Scott:

I am writing this letter to express my support for the establishment of an investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

We strongly urge investment in this center and emphasize that time is of the essence.

Thank You,

A handwritten signature in black ink, appearing to read "Freddie Garcia", written over a horizontal line.

Freddie "Chick" Garcia, Jr.
CEO/Chairman of the Board
Quantum Technology Sciences, Inc.

Support for the Florida Center for Cybersecurity



7887 Bryan Dairy Road, Suite 220, Largo, FL 33777
www.tbinnovates.com

Main Office: 727-547-7340
Fax Number: 727-547-7350

November 5, 2013

Office of Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Dear Governor Scott:

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, we lend our support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

We strongly urge investment in this center and emphasize that time is of the essence.

Thank You,

A handwritten signature in black ink, appearing to read "Tonya Elmore".

Tonya Elmore, President & CEO



November 1, 2013

The Honorable Rick Scott
Office of the Governor
The Capitol
400 S Monroe St
Tallahassee, FL 32399-0001

Dear Governor Scott,

I am writing this letter to express my support for the establishment of and continued investment into the Florida Cybersecurity Center of Excellence (FCC) at University of South Florida. As you are aware, Cybersecurity is a serious issue in our nation as it affects all businesses, citizens, as well as federal, state and local governments. We have also found that other critical institutions such as financial services, Healthcare, Energy, and Utilities are especially vulnerable as well.

I strongly believe that the FCC will be of monumental value to all stakeholders in the Cybersecurity arena. The FCC will position Florida as a leader in Cybersecurity efforts as well as serve as the statewide facilitator of Cybersecurity education. Lastly, the FCC can assist in developing a Cybersecurity workforce, which will attract defense, financial, healthcare industries to our state and aid in the growth of Florida's economy.

After reviewing the vision, mission and goals of the center, Calhoun International lends its support, without any hesitation, to this effort. We also intend to work closely with the center to assist in its very important mission.

Thank you for your attention to this very critical issue.

Sincerely,

Roger Swinford
President and CEO
Calhoun International

CALHOUN INTERNATIONAL
100 North Tampa St Suite 2330
Tampa, FL 33602

Support for the Florida Center for Cybersecurity



November 6, 2013

Governor Rick Scott
State of Florida
The Capitol
400 S. Monroe St.
Tallahassee, FL 32399-0001

Dear Gov. Scott:

On behalf of the Florida High Tech Corridor Council (FHTCC) and its economic development, workforce, higher education and industry partners, I am proud to support the Florida Center for Cybersecurity at the University of South Florida (USF).

This proposed program has the potential to greatly enhance Florida's future economy by cultivating a high tech, high-wage workforce in the rapidly growing field of cybersecurity. As a specialized STEM field, cybersecurity is a critical component of both financial business and national defense, two sectors that are heavily concentrated in Tampa Bay.

The University of South Florida has a proven track record of leadership in advanced research, interdisciplinary collaboration and community partnership—all key ingredients in supporting the development of a cybersecurity Center of Excellence that will drive the creation of new jobs, attraction of new companies and cultivation of highly skilled talent. USF's partnerships in the Tampa Bay region will foster connections among many of Florida's largest companies, as well as several of the nation's most important national defense bases.

Charged with growing high tech industry and innovation through partnerships that support research, marketing, workforce and entrepreneurship, FHTCC is supportive of projects that will meet industry needs now and in the future. On behalf of the Council, I am proud to ask for your commitment to growing our great state's innovation-based economy through this initiative.

Best regards,

Randy Berridge
President

A regional economic development initiative of:



1055 AAA Drive
Suite 140
Heathrow, FL 32746
PH. 407.708.4630
FX. 407.708.4635
www.FloridaHighTech.com



November 1, 2013

Dear Governor Scott:

I am writing this letter to express my support for the establishment of and investment into the Florida Cybersecurity Center of Excellence (FCC) to be set up at University of South Florida.

Cybersecurity is a serious issue today and it affects all businesses, citizens, Government and national security. Data protection is of vital importance to a healthy economy. Financial services industry, Healthcare, Energy, Utilities industries are especially vulnerable, not to mention the Department of Defense.

Creating the center in this critical market will make Florida a leader in this area, and will contribute to the ongoing growth of the IT workforce in our area.

The FCC will be of monumental value to all businesses and the Government, built on a public private partnership. After reviewing the vision, mission and goals of the center, I lend my support, without any hesitation, to this effort and intend to work closely with the center.

The FCC will help with workforce development (create jobs, and high paying jobs), provide expert consulting services and will aid in the growth of Florida's economy.

I strongly urge investment in this center and emphasize that time is of the essence.

A handwritten signature in cursive script that reads "Jenny W. Clark".

Jenny W. Clark

Director

Decosimo-Solvability, LLC

10721 Donbese Avenue

Tampa, FL 33615