Florida A&M University

2010-2011 Annual Report

for the

The FAMU Center for Secure Computing and Information Assurance (FCSCIA)

submitted

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by

The Department of Computer & Information Sciences

Core Faculty Participants

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1. **EXECUTIVE SUMMARY.**

The proposed name of the center is “The FAMU Center for Secure Computing and Information Assurance (FCSCIA).”

**Mission**

The mission of FCSCIA is to promote, coordinate, and implement education, research and innovation in Information Assurance (IA). Participation in Center research projects and educational endeavors is open to faculty, visiting scholars, undergraduate and graduate students, students from diverse disciplines and underrepresented populations.

**Key Terms**

Information assurance, computer security, privacy, cyber security.

**Objectives & Purpose**

- Offer coursework leading to CNSS certificates in Information Assurance recognized by National Security Agency (NSA).
- Increase minority participation in security and information assurance related careers.
- Support university initiatives and projects in information assurance.
- Establish a program of research in information assurance and secure computing.
- Serve as a community, regional and national resource for educational institutions, small businesses and the general public.
- Receive designation as national Center of Academic Excellence in Information Assurance Education (CAEIAE)

**Alignment with University values and mission**

- Help students realize their educational goals.
- Promote intellectual challenge and student involvement in research.
- Value and promote teaching, scholarship and active learning.
- Encourage experimentation, innovation and creativity.
- Increase minority participation in disciplines with severe under-representation.
2. ORGANIZATIONAL STRUCTURE.

The organizational chart for the Center is given in Figure 1. The Center Director is responsible for overseeing and guiding the mission of the Center. The Center will have an Advisory Board of academic, corporate and government representatives who provide advice and guidance on the Center’s annual and strategic plans and performance relative to same. The activities of the Center fall into five major areas: research, curriculum/standards, education/training, service/outreach, and certification as a national Center of Academic Excellence in Information Assurance Education (CAEIAE).

- **Research.** Establish a program of research in information assurance and secure computing. Seek external funding from federal, state and corporate sources.
- **Curriculum and Standards.** Maintain curriculum mappings to industry IA standards (e.g., CNSS 4011, 4012, etc.) and authorization to offer professional certificates to students completing IA courses.
- **Education and Training.** Deliver free-standing IA courses, and develop IA modules for use in existing computer literacy courses and in major courses in CIS, Criminal Justice, etc.
- **Service and Outreach.** Implement programs to promulgate IA awareness to students at the university and to the local community. Collaborate with other institutions to enhance their capacity for IA education, research and outreach.
- **Affirmation as a Center of Academic Excellence in Information Assurance Education (CAEIAE).** Obtain national recognition through formal and rigorous affirmation process based on the strengths of the other four Center activities. To date, only one HBCU has attained this designation.

Figure 1. FCSCIA Organizational Chart
Initially, the Center will have no permanent staff. Faculty involvement in the Center is open to faculty who are active and interested in IA education and research. Initial assignment of membership shall be comprised primarily of faculty members from the CIS Department.

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3. **Detailed Budgets.**

A detailed budget for past year, the next year, and five years beyond, can be found in Appendix B.

Year 2 (2010-2011) expenditures the Center are $119,400, with 30% from E&G funds, and 70% from C&G and private funds; Estimated expenditures for the next fiscal year, 2011-2012, are $65,500, with 70% from C&G funds, and 30% from C&G and private funds.

4. **Center Positions.**

There are no permanent full-time Center positions during the first three years. We project that during years 4-5, one clerical position will be required to support the activities of the Center. This position will be funded from external grant and private sources.

The Center Director will be a non-permanent position. Consideration will be given to requesting a permanent position when the Center’s income exceeds $500K per year.

5. **Other University Resources.**

In the near term, the Center will be housed in the CIS Department in Banneker TECA. Space required for temporary staff will be sought within TECA. Center activities will be conducted at various venues across campus, including the CIS Department, the Humphries Science Research Building, and the Pharmacy Building, depending upon the number of participants.
6. CENTER DESCRIPTION.

Center Justification

1. How will the purposes and activities of the center or institute address an academic need and the mission of Florida A&M University?

_The proposed center represents a response to a national need._ President Bush’s National Strategy to Secure Cyberspace refers to cyberspace as the “nervous system” of our nation’s critical infrastructures, and recognizes that the healthy functioning of cyberspace is essential to our economy and our national security. Securing cyberspace is a difficult strategic challenge, and information assurance (IA) education is critical to meeting this challenge successfully [National Security Agency/Central Security Service, http://www.nsa.gov/releases/cae_r.cfm, 15 May 2008].


_The CIS Department is positioned to respond to student demand for training in information assurance._ FAMU CIS has a positive track record in Information Assurance education. Since its introduction in 2004, the Information Assurance track has enjoyed strong demand and graduation rates. To date, over 80 students have earned professional certification as an information assurance professional. Moreover, additional courses have been introduced to meet growing demand for digital forensics and other elective courses suitable for other majors such as criminal justice. FCSCIA will have an outreach component to address issues of information assurance that cross the boundaries of traditional academic disciplines.

FAMU CIS IA must expand to meet the needs of the university. Because computing is so pervasive, the university has the obligation to educate its faculty, its students, and the public about the risks of information technology as it relates to privacy and rights. IA is one of the first aspects of computing that impacts directly on the average U.S. citizen. The mandate to serve the community is compelling.

_The proposed center represents an opportunity for FAMU to take become a leading producer of minorities to participate in this emerging discipline of national importance._ FAMU must attain the status of Center of Excellence in IA Education (CAEIAE). It is important that HBCUs attain this designation, which recognizes an institutional capacity sustain effective and far-reaching information assurance education. Many advantages will accrue to the institution: the right to apply for student scholarships in IA and homeland security; national visibility; and favorable positioning for corporate support and student recruitment.

2. What are the expected specific outcomes of the center or institute?
• The Center will increase enrollment in FAMU courses and academic programs addressing information assurance and security.

• FAMU will increase by 75% the number of graduates who earn professional certifications in IA by year five.

• By year five, FAMU will increase research funding in IA to at least $400K per year.

• Center researchers will publish at least 8 papers per year in IA and security.

• The Center will foster the development of certificate, minor and concentration programs within CIS and across disciplines.

• FAMU will earn national prominence by being named an NSA Center of Excellence in Information Assurance Education (CAEIAE) by year five (2014).

3. What are the organizational and operational aspects of the proposed center or institute?

The Center will be housed in the CIS Department during the initial five-year period. The major activities of the Center will be assigned to Center associates; the level of effort is proportional to the amount of external (C&G and Private) funding. Center associates are responsible for obtaining commitment of E&G funds to support their academic year participation in Center activities. Summer salaries will be funded from external sources. Center associates are expected to cite their affiliation with the Center in IA-related research publications and presentations.

The Center Director is responsible for “keeping the lights on” to ensure that the Center is able to communicate with stakeholders, and to schedule events such as guest speakers. These nominal duties will be funded from E&G at the level of 0.20 FTE over a 12-month period. Additionally, E&G funds not exceeding 0.20 FTE will be used to support the primary activities of the Center.

The Center will establish relationships with corporations and government agencies, both to procure financial support for Center activities like outreaches and training, and also to engage these entities in an advisory capacity. The FCSCIA Advisory Board will contain diverse government, academic and corporate representatives to inform and champion the Center’s mission and program.

The Center will serve as a focal point for discussing and promoting the importance of information assurance literacy throughout the campus. As such, the Center will host campus events related to personal vigilance in cyberspace for students and the local community. The Center will also stay abreast of industry and government regulations pertaining to cyber-security and professional IA certification requirements. The Center will propose educational materials and new academic courses that prepare FAMU students for 21st Century careers in the information-centric economy.

The viability of the Center rests with its ability to attract external funding. Material support from the College of Arts & Sciences, primarily in the form of release time for faculty, will be provided at a base level of 0.40 FTE, as described earlier. This commitment is a statement of the importance of the Center to the College. Current
grant support is adequate to support the Center at the levels projected for budget years 1-3.

4. **What are the cost and revenue projections for a five-year period of time, including space, library materials and services, equipment, personnel, and other services**

Budget details are given in Appendix B. The budget projections are based on the assumption that current levels of external funding are maintained and expanded. The achievement of NSA designation as a Center of Academic Excellence in Information Assurance Education (CAEIAE) in year 4 will position FAMU to apply for generous student support packages and research grants.

**Success Indicators**

The Success Indicators listed below are relevant to the FAMU Center for Secure Computing and Information Assurance, and will be monitored regularly to indicate progress towards meeting center objectives.

1. **Self-Sufficiency**: Generates external support from grants, contracts and other extramural income.
   
   - Since 2003, over $1M in funding has been awarded to the CIS Department specifically for IA education and research.
   - Grant P120A080094 from the U.S. Department of Education is funded at $600K over three years, 2008-2011. The project funds course buyouts, summer salaries, and student support.
   - A $60K corporate grant was awarded for the period 2009-2012 for research on a secure intelligent office project involving ambient computing and security.

2. **Research/Scholarship/Creativity**: Publications and other media are produced, or faculty productions give credit to the center/institute for its support.

   - Center associates will be expected to publish their research in Information Assurance at least once a year.
   - The Center will fund conference participation for faculty and students.

3. **Faculty Integration/Collaboration/Support**: Academic faculty is an integral part of the unit. The center/institutes provide a forum for the presentation of faculty research and supports faculty teaching, research and service interests.

   - The Center will host a colloquium series of at least two presentations by leading researchers per year.
4. **Education and Training:** Sponsorship of FTE Generating Courses, Supporting Continuing Education Activities, Training Contact Hours, Conferences, Certificates, etc.

- The Center will promote the inclusion of appropriate knowledge of the social and personal impacts of information security into the academic preparation of all FAMU students.
- Center will stimulate cross disciplinary collaboration leading to new programs, courses and research partnership.

5. **University and Public Service:** Contributions of expertise and technical skills to address the needs of the University, professional organizations, community or greater society.

- Center will host annual community outreach addressing relevant issues affecting the average citizen or citizen group (e.g., seniors).

6. **Public Recognition:** Positive public attention is drawn to the University by the activities of the center/institute through newspapers, television and other forms of public media.

- The Center will publicize events and accomplishments through appropriate FAMU Public Relations, campus media (radio, TV and newspaper), and local media.

7. **Quality Assurance:** Employs systematic methods of continuously improving the effective and efficient provision of program and services especially to the achievement of constituent satisfaction.

- The Center is a key element of the designation of the FAMU as a Center of Academic Excellence in Information Assurance Education. The criteria used by NSA for CAEIAE certification attest to the quality of the delivery of products and services to Center constituents.

8. Center/Institute Specific Indicators: Any indicators that denote success of the Center or Institute Mission.

- The Center will apply for NSA designation as a Center of Academic Excellence in Information Assurance Education during the Spring 2011 term.
7. **DIRECTOR CONTACT INFORMATION**

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