



# IA at FAMU: “Broadening IA Awareness & Competency”

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# Outline

- State of IA at FAMU CIS
- FAMU-IA Challenges
- Opportunities to Share



# FAMU-IA Overview

- Faculty: Jones, Evans, Chi, Chatmon
- 3 courses offered annually since Fall 2004
- New Digital Forensics course (2008)
- Moving Forward ...

# IA Faculty at FAMU

## ● Dr. Edward Jones

- Chairman, FAMU CIS Department
- PhD UNC-Chapel Hill
- 13 years industry R&D, software engineering.
- Research in software testing, IA
- PI, NSF grant in software testing, ED grants in IA, instructional technology



## ● Dr. Deidre Evans

- Associate Professor, CIS Department
- B.S. Spellman, M.S.E.E & B.E.E. GA Tech
- Research in Network Security, Formal Specifications, & IA Education
- PI or Co-PI grants totaling over \$4.5 million

# IA Faculty at FAMU

- **Dr. Chi Hongmei**

- Assistant Professor
- PhD FSU, 2004
- Postdoctoral research associate for bioinformatics with Computational Science at FSU, 2004
- Research in Network Security, Bioinformatics
- PI & Co-PI, Several NSF grants in IA



- **Ms. Christy Chatmon**

- Instructor, CIS Department
- BS UGA, MS FAMU
- PhD student at Florida State University, (under renowned Dr. Michael Burmester)
- Research in accountable access control for ubiquitous computing.
- Curriculum expert for IA program track.

# Current IA Certificate Program

- Two existing courses
  - COP 3530 - Data Structures
  - CDA 4503 - Data Communication and Networking
- Three IA Courses
  - CIS 4360 – Introduction to Computer Security
  - CIS 4361 – Applied Security
  - CIS 4362 – Network Security and Cryptography
- Other
  - CIS 4932 – Digital Forensics (*non-certificate*)
  - Demand from Criminal Justice

# CNSS Mapping

- 4011 – INFOSEC Professional
- 4014 – Information Systems Security Officer (ISSO) – *(Expired as of 2008)*
- 4016 – Information Security Analyst *(Currently Applying - 2009)*
- Official Award Ceremony –
  - 9<sup>th</sup> Colloquium for Information Systems Security Education (2005)
  - 12<sup>th</sup> Colloquium for Information Systems Security Education (4011: 2008)



# IA Courses & Certificates

	2004-05	2005-06	2006-07	2007-08	Total
<b>CIS 4360: Intro to Computer Security</b>	<b>30</b>	<b>24</b>	<b>44</b>	<b>33</b>	<b>131</b>
<b>CIS 4362: Network Security &amp; Cryptography</b>	<b>17</b>	<b>22</b>	<b>31</b>	<b>22</b>	<b>92</b>
<b>CIS 4361: Applied Security</b>	<b>38</b>	<b>21</b>	<b>40</b>	<b>18</b>	<b>117</b>
<b>Certificates Awarded</b>	<b>5</b>	<b>10</b>	<b>28</b>	<b>35</b>	<b>78</b>

# External Grant Funding



- NSF MII (\$1M) – 2004-09, SFS Capacity Building (\$200K)
  - Seed funding for curriculum development, early research.
  - Matching equipment grant from Cisco
- Symantec – relationship *started 2008*
  - Research collaborations, access to IA products and training .
- Xerox - *Secure Intelligent Office (SIO) (3-year \$60K) – 2008*
  - Develop a SIO as a test bed for research and education in specifying and evaluating security issues of location-aware pervasive/ambient computing.
- Dept. ED - *MSEIP BIAAC (3-year \$600K) – started 2008*
  - Strengthen the IA program, increase minority participation, achieve CAEIAE status.

# Stand-Alone Security Lab



# Security Lab Overview

- 14 Dell GX620 workstations with 4 separate bootable drives, 2 (Windows XP) and 2 to Linux
- Gateway desktop computer running Windows Server 2003 acting as the domain controller
- Cisco networking equipment
  - Switches, router, firewalls, VPN concentrator, IDS
- Utilization highly labor intensive
  - defining student experience, configuring labs, switch-over between classes, rollback following crashes ...
- On critical path to giving students significant IA experience.

# Research Areas

- Security Model for Designing Ubiquitous Computing Environments
- Accountable Access Control for Ubiquitous Applications and Devices
- Scrambled Quasi-random Sequences and Its Applications
- Security Models for Workflow Management Systems in E-healthcare
- Keystroke Analysis of Passwords
- Obfuscation Techniques for Code Protection

# FAMU IA Challenges

- Institutional Sponsorship /Recognition
  - FAMU Center for Secure Computing & IA (FCSCIA)
- Critical Mass of IA Faculty & Support Staff
- Virtualized Laboratories for Hands-on Exercises
- Research
  - Vibrant colloquium series
  - Strategic/sustainable versus opportunistic
- Effective Cross-Institutional Collaborations
- CAEIAE designation!

# “Opportunities to Share”



## Back to the Theme – Ethical Hacking

- Yes, EH is appropriate for IA professional training.
- Challenge is to control the “monster”
  - Ethics is a personal and professional quality
  - Ethics must be pervasive in all of IA education
  - Technical execution requires fences -- superior lab configuration and support.
- Isn't this the challenge for much of IA?

# Back to Sharing

- Common challenges
- Collectively we meet CAEIAE requirements
- What would it take to form an IA consortium?
  - Goal of transferring my (your) success to you (me)
  - How might external funding help?
  - What are some funding sources?

# One Possibility

- Department of ED Minority Science and Engineering Improvement Program (MSEIP)
- Recognizes collaborative efforts
- Addresses increasing minority participation
- A successful proposal could provide the main thing we need – time and money.
- MSEIP proposals due in the Spring (March – May timeframe)

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**QUESTIONS?**