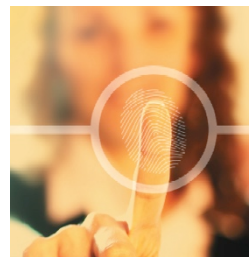


Leveraging Federal Agencies' Assistance to Inspire Youth to Pursue Cybersecurity Education and Career Path at a CAE in Florida



***Proud NSA/DHS Center of Academic Excellence
in Cyber Defense Education since 2005!***

Yair Levy, Ph.D. (levyy@nova.edu)

Professor of Information Systems and Cybersecurity

Critical Infrastructure



*“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”*

(U.S. National Security Council, 2011)

Overview

- Workforce Challenge
- The Grand Vision
- Cybersecurity Call for Action
- National Programs
- Collaborations and Partnership
- Some history of our NCSAM event
- Self-Funded?
- Program Content and Schedule



The Grand Vision

Don't ask kids what they ***want to be*** when they grow up, but ***what problems do they want to solve***. This changes the conversation from ***who do I want to work for***, to ***what do I need to learn***, and ***what skills should I have***, to be able to solve that problem!

Adapted from Google Global Education

Cybersecurity Call for Action



Source: <http://i.huffpost.com/gen/2115678/images/o-CLIMATE-CHANGE-facebook.jpgg>

National Programs

NIST



#ncsam

National Cyber Security
Awareness Month

StaySafeOnline.org



STOP

THINK



CONNECT™



DAY OF
CYBER
AN INTERACTIVE EXPERIENCE SPONSORED BY NSA

Collaborations and Partnership

- Miami-Dade Public Schools Systems
- FBI – Miami Field Office
- FBI/InfraGard – South Florida Chapter
- USSS – Miami Electronic Crime Task Force (MECTF)
- NSA - via LifeJourney™ USA
- DHS and NIST
- Local businesses



History of the Event

- Started in October 2013
 - 120 High-school kids + 6 teachers
 - Four schools
 - Sponsored by our university and Discover Cards
- Yearly event in mid October
- Our latest event in October 2017
 - 200 High-school kids + 12 teachers
 - Seven schools
 - Sponsored by two local vendors

Self-funded?



VOLICO

Enterprise Hosting Solutions

<http://www.volico.com/>



**24BY7
SECURITY**

<http://24by7security.com/>

Nova Southeastern University
College of Engineering and Computing

cybersecurity day at NSU

October 20, 2016

This event is in collaboration with



National Cyber Security
Awareness Month



09-043-16MCS

NSU
NOVA SOUTHEASTERN
UNIVERSITY
College of Engineering
and Computing

Cybersecurity Day @ NSU

Hosted By The College of Engineering And Computing (CEC)

When:

Thursday, October 19th, 2017

8:45 am to 1 pm

Where:

Nova Southeastern University

DeSantis Atrium

Knight Auditorium/1124 and Room 1053/1054

This event is in collaboration with



National Cyber Security
Awareness Month



09-043-16MCS

NSU
NOVA SOUTHEASTERN
UNIVERSITY
College of Engineering
and Computing

Program Content and Schedule

Time	Room	Topic	Presenter(s)
8:45 am -9:30 am	DeSantis Atrium	Arrival, Registration, and Refreshments	
9:30 am-9:35 am	Knight Auditorium/1124 + room 1053/1054	Introduction	Dr. Yair Levy, Professor of Information Systems and Cybersecurity, CEC - Nova Southeastern University
9:35 am-9:40 am	Knight Auditorium/1124 + room 1053/1054	Welcome Notes	Dr. Yong Tao, Dean College of Engineering and Computing (CEC) - Nova Southeastern University
9:40 am-10:10 am	Knight Auditorium/1124 + room 1053/1054	U.S. Department of Homeland Security (DHS) and Cybersecurity	U.S. Department of Homeland Security (DHS) – Headquarters, DC, Benjamin Scribner (Invited)
10:10 am-10:30 am	Knight Auditorium/1124 + room 1053/1054	Security in Data Centers and Cloud Hosting	Mr. Gadi Hus, MS – COO - Volico Hosting Solutions
10:30 am-11:00 am	Knight Auditorium/1124 + room 1053/1054	FBI and Cyber Crime Prevention	Special Agent Umbel, FBI Miami Field Office
11:00 am-11:20 am	Knight Auditorium/1124 + room 1053/1054	Cyber Hygiene	Ms. Rema Deo, Managing Director, 24by7Security

Program Content and Schedule

11:20 am-11:30 am

Break (move from auditorium to classrooms 1053/1054 + 1048/1049)

11:30 am-12:10 pm

Classes 1053/1054

Classroom Activities –

National Security Agency Emmanuel Jigo, CEC Doctoral Student in
(NSA) Day of Cyber - High- IS and Cybersecurity
School activities

+ room 1053/1054

12:10 pm-12:30 pm

Classes 1053/1054

Enhancing your Cyberse- Dr. Yair Levy, Professor of Information
curity Skills + Short Movie Systems and Cybersecurity, NSU-CEC

+ room 1053/1054

12:30 pm-1:00 pm

Classes 1053/1054

Lunch - Sponsored by Volico Enterprise Hosting Solutions, and
24by7Security.

+ room 1053/1054

Certificate of Completion Giveaway!

1:00 pm

Students are bussed back to schools

October 2017

C3

C3 = Cyber-*security*
+ Cyber-*hygiene*
+ Cyber-*ethics*

C3 Defined

- Cyber-*Security*

“The protection of information and computer systems, as well as networks while connected to the Internet”

- Cyber-*Hygiene*

“Responsible rules and behaviors designed to keep individuals safe whenever connected to the Internet”

- Cyber-*Ethics*

“Cyber-Ethics involve the informal code of positive conduct used whenever someone is connected to the Internet”

Common Cyber Threats

- Identity Theft
- Data Privacy
- Social Engineering
- Phishing and Spear-Phishing
- Business E-mail Compromise
- Free/Open WiFi Networks
- Malware and Spyware
- Mobile Malware
- Social Media

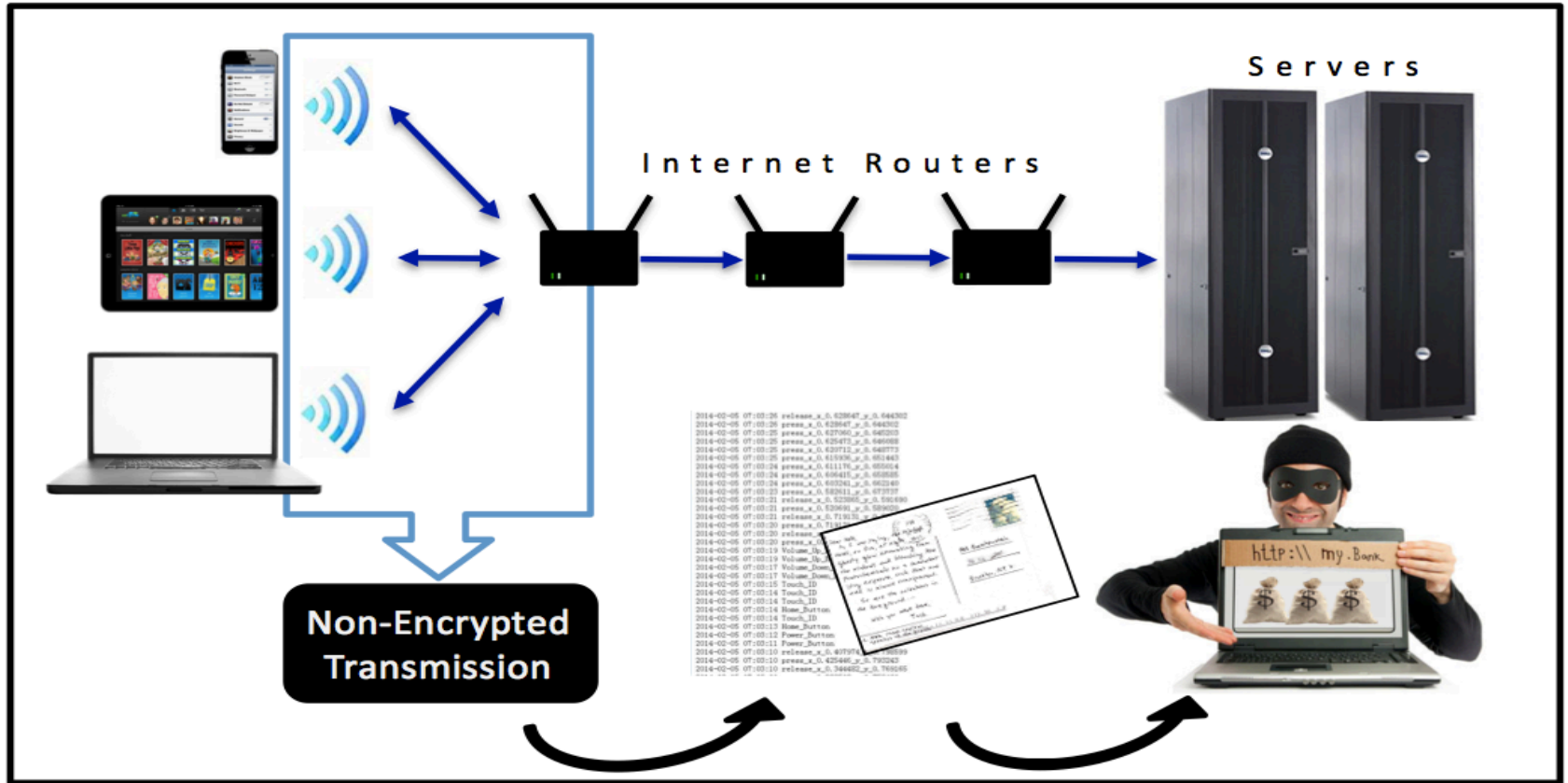
***Cyber Security is Everyone's
Responsibility***



Free/Open WiFi Networks



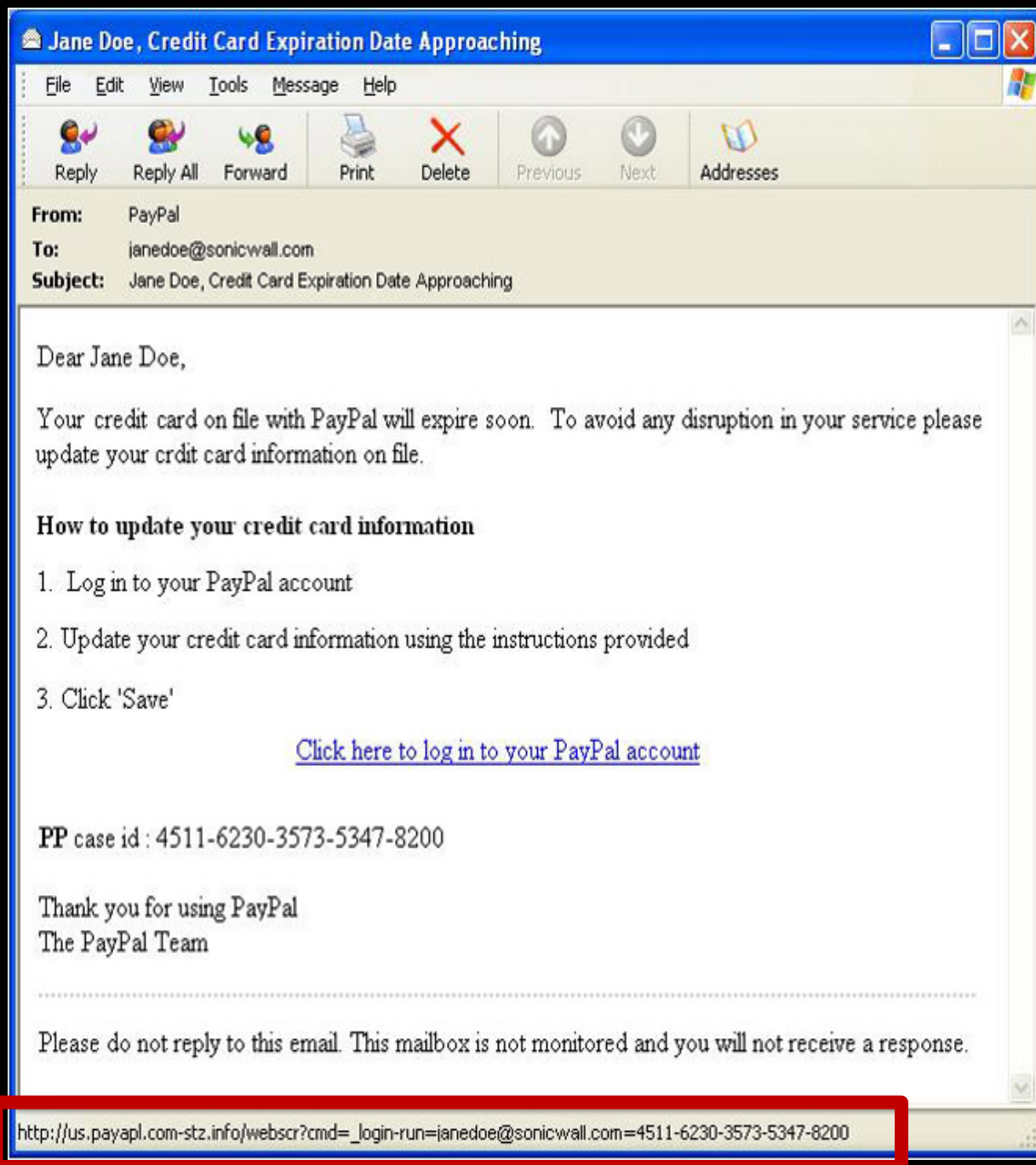
Free/Open WiFi Networks (Cont.)



Anatomy of eavesdropping/MITM and information theft Via non-secured “free” WiFi

Data Privacy

Many people would share personal information with companies or others as long as they get something in return (free app!)



Phishing Example



Mobile Malware/Spyware



```
← → × https://...
2014-02-05 07:03:26 release_x_0.628647_y_0.644302
2014-02-05 07:03:26 press_x_0.628647_y_0.644302
2014-02-05 07:03:25 press_x_0.627060_y_0.645203
2014-02-05 07:03:25 press_x_0.625473_y_0.646088
2014-02-05 07:03:25 press_x_0.620712_y_0.648773
2014-02-05 07:03:25 press_x_0.615936_y_0.651443
2014-02-05 07:03:24 press_x_0.611176_y_0.655014
2014-02-05 07:03:24 press_x_0.606415_y_0.658585
2014-02-05 07:03:24 press_x_0.603241_y_0.662140
2014-02-05 07:03:23 press_x_0.582611_y_0.673737
2014-02-05 07:03:21 release_x_0.523865_y_0.591690
2014-02-05 07:03:21 press_x_0.520691_y_0.589020
2014-02-05 07:03:21 release_x_0.719131_y_0.340179
2014-02-05 07:03:20 press_x_0.719131_y_0.336624
2014-02-05 07:03:20 release_x_0.415924_y_0.523911
2014-02-05 07:03:20 press_x_0.411148_y_0.519455
2014-02-05 07:03:19 Volume_Up_Button
2014-02-05 07:03:19 Volume_Up_Button
2014-02-05 07:03:17 Volume_Down_Button
2014-02-05 07:03:17 Volume_Down_Button
2014-02-05 07:03:15 Touch_ID
2014-02-05 07:03:14 Touch_ID
2014-02-05 07:03:14 Touch_ID
2014-02-05 07:03:14 Home_Button
2014-02-05 07:03:14 Touch_ID
2014-02-05 07:03:13 Home_Button
2014-02-05 07:03:12 Power_Button
2014-02-05 07:03:11 Power_Button
2014-02-05 07:03:10 release_x_0.407974_y_0.798599
2014-02-05 07:03:10 press_x_0.425446_y_0.793243
2014-02-05 07:03:10 release_x_0.344482_y_0.769165
```

Malware – ‘Ransomware’

Ransomware is a type of malicious software (malware) that infects a computer and restricts access to it until a ransom is paid to unlock it.



Malware— 'Ransomware' – (Cont.)

YOUR COMPUTER HAS BEEN LOCKED!

This operating system is locked due to the violation of the federal laws of the United States of America! (Article 1, Section 8, Clause 8; Article 202; Article 210 of the Criminal Code of U.S.A. provides for a deprivation of liberty for four to twelve years.)

Following violations were detected:

Your IP address was used to visit websites containing pornography, child pornography, zoophilia and child abuse. Your computer also contains video files with pornographic content, elements of violence and child pornography! Spam-messages with terrorist motives were also sent from your computer.

This computer lock is aimed to stop your illegal activity.

To unlock the computer you are obliged to pay a fine of \$200.

You have **72** hours to pay the fine, otherwise you will be arrested.

You must pay the fine through

To pay the fine, you should enter the digits resulting code, which is located on the back of your in the payment form and press OK (if you have several codes, enter them one after the other and press OK).



OK





Password Strength & Cyber Risks



What 2
DO?

Password Strength & Cyber Risks

- Don't use *passwords*

~~"John\$1953"~~

Use **passphrases!**


"JohnL!kes2Lattes4\$4"







Homeland Security Investigations (HSI)



CyberCorps®
Defending America's Cyberspace

CyberCorps: Scholarship for Service

To help build the nation's cyber expertise, DHS works with the National Science Foundation to sponsor the CyberCorps Scholarship for Service Program, which provides scholarships for college students in cyber related fields, in exchange for a commitment to the government in a cybersecurity role.

<https://www.sfs.opm.gov>

33





Future Workforce





Yair Levy, Ph.D. (levyy@nova.edu)

Professor of Information Systems and Cybersecurity
NSU – College of Engineering and Computing (CEC)

Site: <http://cec.nova.edu/~levyy/>