



DREXEL UNIVERSITY

# Isaac L. Auerbach Cybersecurity Institute

## December 2017 Newsletter

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### Spotlight



**Professor  
Chris Carroll**  
Assistant  
Teaching  
Professor, BSCST  
Program Director,  
Information  
Science  
Department,  
College of  
Computing and

Informatics

Professor Carroll is the program director for Drexel's BS degree in Computing and Security Technology housed in the College of Computing and Informatics. The BSCST is Drexel's undergraduate degree program in Cybersecurity.

Prior to teaching at Drexel full-time Professor Carroll worked in industry for 28 years holding positions related to managing

### Institute News

#### NSA Professionals Score College Credit at Drexel

For more than half a century, students in training to become experts in numerous fields at the National Security Agency have participated in rigorous training at the National Cryptologic School — learning everything from foreign languages to codebreaking. Today the school with the classified curriculum is expanding its coursework to keep students ahead of the latest technological threats by partnering with Drexel University to offer them the

infrastructure for healthcare company's Astra-Zeneca, Quest Diagnostics, Pfizer and a financial company named ACE. This included managing teams of engineers that designed and supported servers, storage, LAN's, WAN's, firewalled network configurations for Internet facing applications and business partner connections.

Professor Carroll interests include virtualization, server technologies, Cybersecurity curriculum and designing secure networks. He received his Bachelor's degree in Mathematics from St. Michael's College in Vermont, and his Master of Science degree in Computer Science from Drexel University.

**Contact Info:**

**Email:** [cjc334@drexel.edu](mailto:cjc334@drexel.edu)

[Click here to learn more about Chris Carroll!](#)

## New Cybersecurity Courses

**New Cybersecurity course sequence is offered this academic year!**

- Instructor: Adjunct Professor **Russel Handorf** of FBI
- Undergraduate and Graduate
- Fall 2017 course: "Security Offensive and Defensive Tactics"
- Follow-up course in Spring 2018



## Excite Center Interview

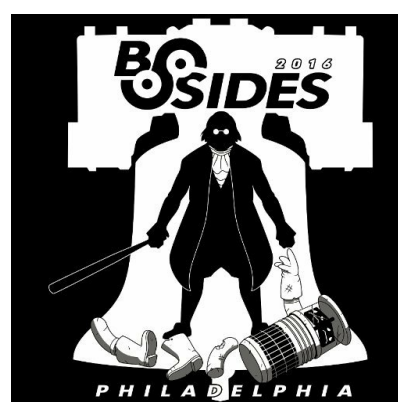
opportunity to earn a master's degree in cybersecurity.

[To learn more click here!](#)

## NSA Cybersecurity Workforce Education Grant

The Isaac L. Auerbach Cybersecurity Institute will receive the Cybersecurity Workforce Education grant from National Security Agency (NSA). This grant will fund the development and offering of several new cybersecurity laboratory courses aimed at senior undergraduate students in Drexel's Department of Electrical and Computer Engineering (ECE), including Security Offensive and Defensive Topics, Blockchain and Cryptocurrency Laboratory, Wireless Security Laboratory, Image, and Video Forensics Laboratory.

## Philly BSides Conference 2017



<https://www.bsidesphilly.org/>

The BSides Philadelphia is an Information Security conference by information security community members. The conference is going to be at Drexel University again. The event will be just one day on December 8th. The meeting included speakers, demonstrations, and lectures related to numerous topics in cybersecurity. Small career opportunities and networking sessions were also provided throughout the conference. The limited tickets are available through the student

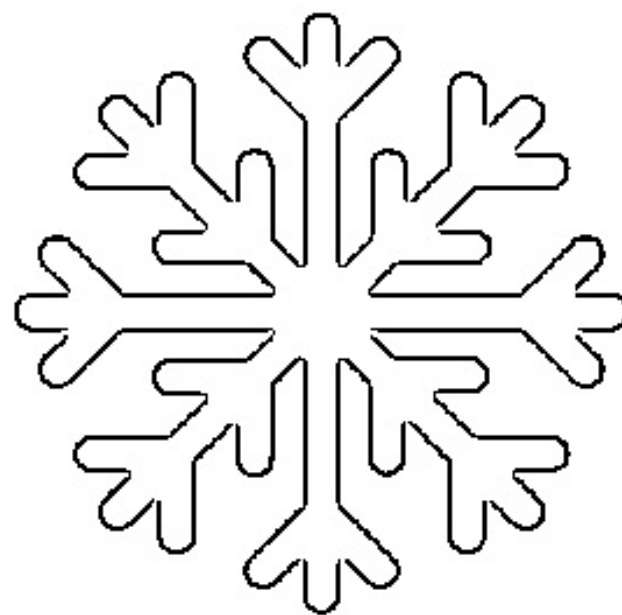
Today everything we do is connected to the internet, we talk to Director of the Auerbach Drexel Cybersecurity Center Steve Weber and president of the Drexel Cyber Dragons Colbert Zhu about what is cyber security and how you can learn and practice it.

[Click here to listen to the interview!](#)

organization, CyberDragons.

### **Drexel Isaac L. Auerbach Cybersecurity Institute Has a New Website!**

[Click here to check it out](#)



## **Cybersecurity News**

### **Cyber Security Is a Serious Problem for Physicians: Survey**

The findings show the most common type of cyber attack was phishing — cited by 55% of physicians who experienced an attack — followed by computer viruses (48%). Physicians from medium and large practices were twice as likely as those in small practices to experience these types of attacks.

Nearly two thirds (64%) of all the physicians who experienced a cyber attack had up to 4 hours of downtime before they resumed operations, and 29% of physicians in medium-sized practices that were attacked said they experienced almost a full day of downtime.

[Click here to learn more!](#)

## **Seeking Cyber Students**

### **Join CyberDragons**



- Knowledge and hands-on experience on cybersecurity topics
- Preparation for National Collegiate Cybersecurity Defense Competition
- Meetings for Fall term:
  - Tuesday: 17:00 - 19:00 (Foundational concepts)
  - Thursday: 17:00 - 19:00 (CCDC

Competition practice)

- Location: Science Center at 3401 Market St. 3rd-floor



room 326

Email CyberDragons Student President **Colbert Zhu** with questions about how to get involved at [colbert.zhu@gmail.com](mailto:colbert.zhu@gmail.com)

[Click Here to Join!](#)



### **Drexel Women in Computing Society (WiCS)**

Drexel's Women in Computing Society's (WiCS) purpose is to support, recruit, and retain women pursuing a degree in the broad field of computing. As a recognized student organization at Drexel University, WiCS is open to

current undergraduate and graduate students of all genders, majors, and backgrounds.

[Click here to learn more about the Drexel Women in Computing Society \(WiCS\)](#)

### **The Master of Science (MS) Degree in Cybersecurity at Drexel**

The MS in Cybersecurity is an interdisciplinary program that prepares students with both the academic and practical training to be competitive in the ever-changing technical landscape of cybersecurity.

[Click here to view required courses and to learn more about the graduate co-op program](#)

## **Cybersecurity Institute's Recent Grants**

Isaac L. Auerbach Cybersecurity Institute has been granted these three grants from different sources for researches in Cybersecurity topics.

### **1. High Performance Techniques to Identify the Source and Authenticity of Digital Videos Using Multimedia Forensics**

Matthew C. Stamm who is a professor at Drexel Electrical and Computer Engineering is a Primary Investor (PI) of this grant. The grant is give by The Army Research Office Rapid Innovation Fund. The grant will be valid until June 2019.

### **2. Secure Hardware IP Solution Low Overhead Circuit Obfuscation Primitives**

Ioannis Savidis who is a professor in College of Electrical and Computer Engineering at Drexel, is a Primary Investor (PI) of the grant. The grant is give by Drexel Ventures Innovation Fund. The grant will be valid until June 2018.

### **3. Attribution of Malicious Binaries**

Rachel Greenstadt who is a professor in College of Computing and Informatics at Drexel, is a Primary Investor (PI) of the grant. The grant is give by Defense Advanced Research Project Agency (DARPA). The grant will be valid until 2019.

## Drexel Spotlight In Cybersecurity



Michelle Septak Tarbutton  
MS in Cybersecurity '18

Michelle is currently pursuing her Master's of Cybersecurity degree at Drexel, is a member of the CyberDragons (Drexel's cybersecurity competition team), and was the team captain of the CyberDragons for the 2017 National Collegiate Cyber Defense Competition (CCDC) (<http://www.nationalccdc.org>). The CCDC is a nationwide competition where students are tasked with defending a network while red team hackers try to penetrate it. In Drexel's first year of competition, the CyberDragons finished 4th out of 28 teams in the Mid-Atlantic CCDC regional finals held at the Johns Hopkins Applied Physics Lab in Laurel, Maryland. The CyberDragons hope for even better results this year, so stay tuned! Michelle also attended Drexel as an undergraduate, graduating with a degree in Business Administration in 2005, and receiving an athletic scholarship to play tennis for the Dragons. As a former tennis team captain, Michelle remains very involved in Drexel Athletics, serving as the co-chair of the Athletic Director's Board of Delegates, and the co-chair of the Tennis Committee. In addition to her background as a Network and Systems Administrator, Michelle holds the A+, Network+, Security+, Certified Ethical Hacker (CEH), and Computer Hacking Forensics Investigator (CHFI) certifications. She is looking forward to graduating in the Spring and beginning her career in cybersecurity in the network defense realm. Michelle and her husband Scott welcomed their first child in August, a beautiful baby girl Savannah.

## Cybersecurity Institute's Recent Publications

Isaac L. Auerbach Cybersecurity Institute has worked on many publications. Recently, these two papers have been selected to be presented at 12th International Conference on Malicious and Unwanted Software on October 11th to 14th.

### **1. Behavioral Anomaly Detection of Malware on Home Router**

Authors: Ni An, Alexander Duff, Gaurav Naik, Michaelis Faloutsos, Steven Weber and Spiros Mancoridis

### **2. Lightweight Behavioral Malware Detection for Windows Platforms**

Authors: Bander Alsulami, Spiros Mancoridis, Avinash Srinivasan and Hunter Dong

## **DREXEL ISAAC L. AUERBACH CYBERSECURITY INSTITUTE**

Director: Steven Weber, PhD

Student Coordinator: Michael Raffle, CST Student

For more information about the Drexel Isaac L. Auerbach Cybersecurity

Institute, please email [cybersecurity@drexel.edu](mailto:cybersecurity@drexel.edu)

