

# **C h a r l e s “ C a s e y ” W . O ’ B r i e n**

## **Significant Professional & Academic Achievements**

- National leader in cyber exercise design and delivery methods
- Founder and Director of the Community College of Baltimore County's (CCBC) Institute for Cyber Security
- Design and teach Security courses internationally (e.g., Ethical Hacking, IPv6)
- Competition Director for the Mid-Atlantic Regional Collegiate Cyber Defense Competition (CCDC)
- Co-authored \$5 million National Science Foundation (NSF) Advanced Technological Education (ATE) grants to develop the CyberWatch Center
- Designed the first Information Systems Security Associate of Applied Science (A.A.S.) certificate program in Maryland, USA
- Build and maintain state-of-the-art networking and security laboratories

## **Computing Expertise in Brief**

- Over 15 years of project management and working IT experience in complex public- and private-sector environments
- Penetration testing and incident response
- Microsoft, Linux/UNIX operating systems: system administration, networking, and security
- Network security: traffic/protocol analysis, firewalls, IDSes/IPSes, routers, switches, wireless (802.11), and host hardening
- Secure network engineering, management, and monitoring, including 802.11 networks
- Application/Web development, statistical programming, and database administration
- Wide breadth of understanding of varied aspects of IT
- Superior analytical and troubleshooting ability

### **Professional Certifications/Organizations**

- Certified Information Systems Security Professional (CISSP)
- Certified Ethical Hacker (CEH)
- Certified Ethical Hacker Instructor (CEI)
- CompTIA Security+
- Formerly held Cisco Certified Network Associate (CCNA) certification (lapsed in 2003)
- FBI InfraGard Member (MD/DE Chapter)
- Maryland Alliance for Information and Security Assurance (MAISA)

### **Present Positions**

- Director, Institute for Cyber Security, Community College of Baltimore County (September, 2010 – Present)
  - Created the Institute
  - Provide the necessary resources and motivation to enable community college students to become effective professionals in the ever-increasing cyber-enabled economy
  - Assist students in job placement and career planning
  - Improve the cyber security posture of the Institute so its constituents can fully benefit from the ongoing cyber revolution
  - Leverage current activities and resources among existing funded projects in support of the Institute's mission
  - Build relationships and enter partnerships with other institutions of higher education, government organizations, and the business community to facilitate solutions to the growing need for a qualified IA workforce
  - Raise awareness for security issues within CCBC and the community
- Associate Professor, Network Technology Department, Community College of Baltimore County (August, 2002 – Present)
  - Maintain and improve the Network Technology degree and certificate curricula (Cisco, Red Hat, Microsoft, Information Security, and general networking)
  - Develop and teach courses in Computer Networking, Operating Systems, and Information Systems Security
  - Undergraduate student academic advisement
  - Maintain state-of-the-art networking and security laboratories

- Co-Director, CyberWatch Center (September 2005 – Present)
  - Coordinate consortium's cyber security activities, including: faculty development, curriculum development, student competitions, and partnerships with high schools, two- and four-year colleges/universities, regional businesses, and federal government agencies
  - Host and run the Mid-Atlantic Regional Collegiate Cyber Defense Competition (CCDC)
  - Manage large, fiscal budget
  - Promote CyberWatch at national and international events

### **Previous Positions**

- Lead Network Engineer and Director of Technical Services, USC/Canterbury Corp. (August, 2000 – August, 2002)
  - Designed, implemented, and maintained a number of enterprise technology systems and services for large, private-sector clients, educational institutions, and state and local government agencies
  - Reduced network downtime, increased availability of mission-critical applications/systems, and upgraded/secured applications/systems to protect against security incidents for Baltimore City State's Attorney's Office (400+ users in seven locations)
  - Supported the Baltimore City Criminal Justice fiber-optic backbone network (in conjunction with the Mayor's Office of Cable and Communications)
  - Managed a team of four system/network administrators
- Director & Founder, Internet Service Group, Johns Hopkins University/Center for Communication Programs (January, 1996 – August, 2000)
  - Coordinated Internet-based technology projects with 26 field offices throughout Asia, Africa, and Latin America for leading health communication organization
  - Managed a team of system administrators, Web developers, and graphic designers
  - Developed Web-based Intranet applications
  - Developed and maintained online, photo database
  - Setup and maintained fault-tolerant DNS, HTTP, FTP, and multimedia database servers to support various Websites, running various Windows and Linux operating systems
  - Supported Gopher site

**Previous Positions (con't)**

- Research Assistant, Research & Evaluation Division, Johns Hopkins University/Center for Communication Programs (January, 1995 – January, 1996)
  - Implemented statistical methods for analysis of research data related to overseas family planning and health communication programs
  - Supported division's computer systems and statistical applications

**Technical Expertise**

- Cyber exercise design and delivery
- Networking/information security laboratories (face-to-face, virtual)
- Network penetration testing
- Information systems architecture, integration, project management, and security
- Protocol/traffic analysis
- Firewall (Cisco PIX/ASA, pfSense, iptables) engineering, implementation, and administration
- Intrusion Detection/Prevention Systems (IDS/IPS) engineering, implementation, and administration
- Networking hardware (routers and switches) engineering, implementation, and administration
- Windows/Linux/UNIX (OS X, FreeBSD) system administration
- Networking at Layers 2-4 and 7 (including all major TCP/IP protocols)

**Education**

- 08/93 M.A. Psychology, Duquesne University (Pittsburgh, PA)
- 05/92 B.A. Psychology, University of St. Thomas (St. Paul, MN)

**Grants**

- Principal Investigator: \$87,218 Maryland Higher Education Commission (MHEC) grant, *CCBC Cybersecurity Training Institute*, January 1, December 31, 2011
- Co-Principal Investigator: CyberWatch II, a \$2.7 million NSF/ATE continuation grant, September, 2009-September, 2012
- Co-Principal Investigator: CyberWatch, a \$3 million National Science Foundation (NSF) Advanced Technological Education (ATE) grant, October, 2005-September 2009

**Refereed Conference Publications**

- Rosenberg, T. & O'Brien, C., *The Growth of the Mid-Atlantic Collegiate Cyber Defense Competition (CCDC): Public-Private Partnerships at Work*. 12<sup>th</sup> Colloquium for Information Systems Security Education, Dallas, TX, June, 2008
- Odubiyi, J. & O'Brien, C., *Information Security Attack Tree Modeling as an Effective Approach for Enhancing Student Learning*. 7<sup>th</sup> Workshop on Education in Computer Security, Naval Postgraduate School, Monterey, CA, January, 2006

### Conference Presentations

- Presenter: High Impact Technology Exchange Conference (HI-TEC): "Exploring a National Cyber Security Exercise for Community Colleges." Orlando, FL, July 29, 2010
- Presenter: Hawaii International Conference on System Sciences (HICSS): "Exploring a National Cyber Security Exercise for Community Colleges." Kauai, HI, January 5, 2010
- Presenter: League for Innovation in the Community College Conference on Information Technology: "Securing Our Nation's Information Systems: The CyberWatch ATE Center." Detroit, MI, October 13, 2009
- Invited speaker: Colloquium for Information Security Systems Education (CISSE): "Enriching Community College Information Assurance Curricula Through Student Competitions." Boston University, Boston, MA, June 6, 2007
- Presenter: League for Innovation in the Community College Conference on Information Technology: "HIM+IT=HIIT: A Technology Approach for Healthcare Education." Nashville, TN, November 12, 2007
- Invited speaker: American Association of Community Colleges/National Science Foundation Advanced Technological Education Principal Investigators Conference: "Making Articulations Work." Washington, D.C., October 19, 2006
- Invited speaker: C3 Conference: Cyberethics, Cybersafety, and Cybersecurity. "Information Security in Today's World." University of Maryland, Adelphi, MD, October 5-7, 2006
- Invited Speaker and panel moderator: "Evaluation of a Web Site." The Population and Health Materials Working Group Second Internet Meeting. Johns Hopkins University, Baltimore, MD, January 21-22, 1998
- Invited speaker and panel moderator: "Who Is Looking At Your Information: Evaluation and How It Works." Internet Connections: Communicating with Developing Countries About Population and Reproductive Health. Johns Hopkins University, Baltimore, MD, January 25, 1996

### Committees

- Chair, National Collegiate Cyber Defense Competition (CCDC) Rules and Operations Committee, 2010
- Colloquium for Information Systems Security (CISSE). University of Maryland University College, Adelphi, MD, June 5-8, 2006
- The Population and Health Materials Working Group Second Internet Meeting. Johns Hopkins University, Baltimore, MD, January 21-22, 1998
- Internet Connections: Communicating with Developing Countries About Population and Reproductive Health. Johns Hopkins University, Baltimore, MD, January 25, 1996

### **Courses Taught**

- Certified Ethical Hacker (CEH): Duke University, Tufts University, University of Manitoba, University of Utah, University of Victoria (British Columbia), Mississauga, Ontario, Windsor/Essex, Ontario, Kingston, Ontario, Grande Prairie, Alberta
- E-Commerce Security: Graduate class in Computer Science department at George Washington University (Fall 2010, Spring 2011)
- Hacking/Security Tools
- TCP/IP
- Wireshark Functionality and Fundamentals
- IPv6
- Firewalls (Cisco PIX, ASA, pfSense, iptables)
- Intrusion Detection/Prevention Systems (Snort)
- Linux/UNIX (system administration, shell scripting)
- Network Defense and Countermeasures
- Introduction to Data Communications
- Cisco I: Network Fundamentals
- Cisco II: Routing Protocols and Concepts
- Cisco III: LAN Switching and Wireless
- Cisco IV: Accessing the WAN
- CompTIA Security+
- CompTIA Network+
- CompTIA A+: Introduction to PC Repair & Operation
- CompTIA A+: Computer Systems Operation, Maintenance, and Troubleshooting
- Windows Professional (Windows 2000, XP, Vista, Windows 7)
- Windows Server (Windows 2000, 2003, 2008)
- Windows Network Infrastructure